Science Lesson Plans

Level 2

Term 1

Science Lesson Plans

Level 2

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Science Lesson Plans

Level 2
Term 1
Week 1

Week	Curriculum Strand	Topic	Day	Specific Objectives	Home work
1	Life Systems	Growth and Changes in Animals	1	Students will be able to understand classification or the arrangement of things into groups.	H.W
1		do	2	To identify different groups of animals	
1		do	3	To identify different groups of animals (written work)	H.W
1			4	Identifying characteristics of fish and birds	
1		do	5	Assessment	

Level 2		Life Systems
Term 1	Lesson Plan	Animals
Week1		
Day1		

Topic: Growth and changes in animals
Objective: Students will be able to understand classification or the arrangement of things into groups.
Activity: worksheet
Materials: worksheet
Procedure:
Warm-up Q/A

- Ask, look around in your class,
- How many different things do you find?
- Do they all look same?
- What things will you mention, if I ask you what are the furniture pieces in class? (Desk, chairs, table etc.)
- Why did not you include blackboard or window in it?
- Listen to their responses.
- Then discuss classification or grouping in general.
- Tell the students what we mean by grouping?
- (Grouping means putting things together on basis of their similarities)
- As they just did including all the furniture in one group.

Brainstorming/discussion

- Draw this chart on the board and ask e.g.
- In how many ways can we group the students in the class?

Grouping of students in the class	
Boys	Girls
Tall students	Short students
Girls with long hair	Girls with short hair
Children with black hair	Children with brown hair

- Keep on building your list to see how many they can think of.

Explanation

- Explain,
- Grouping can be done in different ways by considering different similarities.
- We grouped the students in class in different kinds of groups by looking at their similar features.
- Refer to the list and explain, for example we placed all the boys in one group and all the girls in other group, then tall students in one group and short ones in one group.
- We did this on the basis of their similar features or similarities.

- Similarly we classify food into different groups such as fruits, vegetables, meat, grains etc.
- Then ask, why do we classify things? Listen to their responses.
- Then explain, grouping of objects, ideas, or information makes things easy to find and study.
- Think about subjects you study in school such as grammar, math, and social studies.
- We use classification to make our everyday lives easier.

Activity:

- Distribute the worksheet and explain the task.

Wrap-up Q/A

- What is grouping or classification? (Grouping means putting things together on basis of their similarities)
- Why do we classify things? (Makes things easy to find and study).

- **H.W Revise the work done in class.**

Level: 2 Term: 1

Week: 1 Day: 1

Grouping Worksheet

Q 1) Complete these sentences.

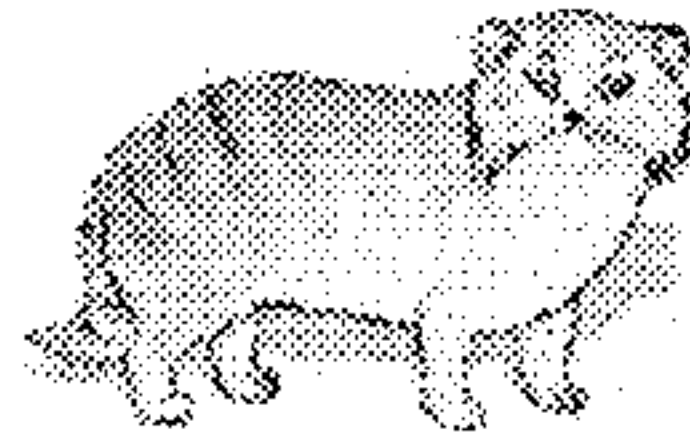
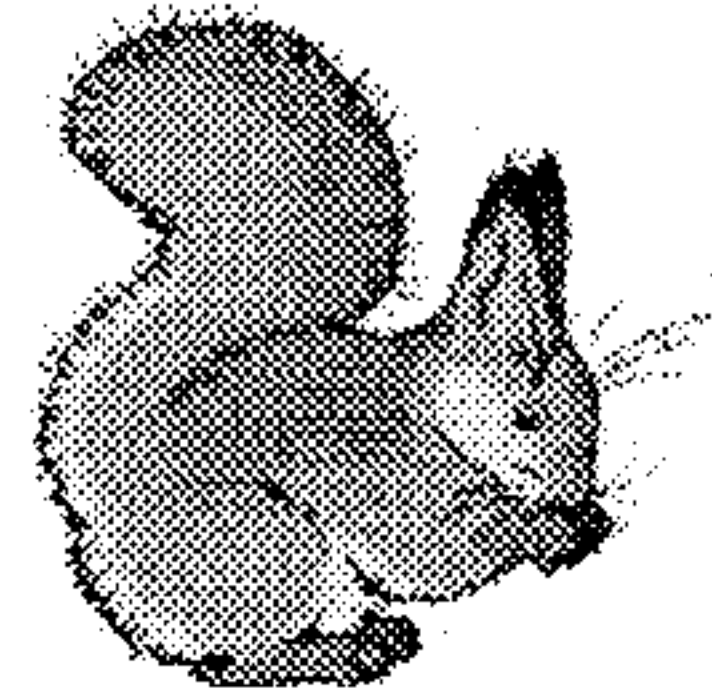
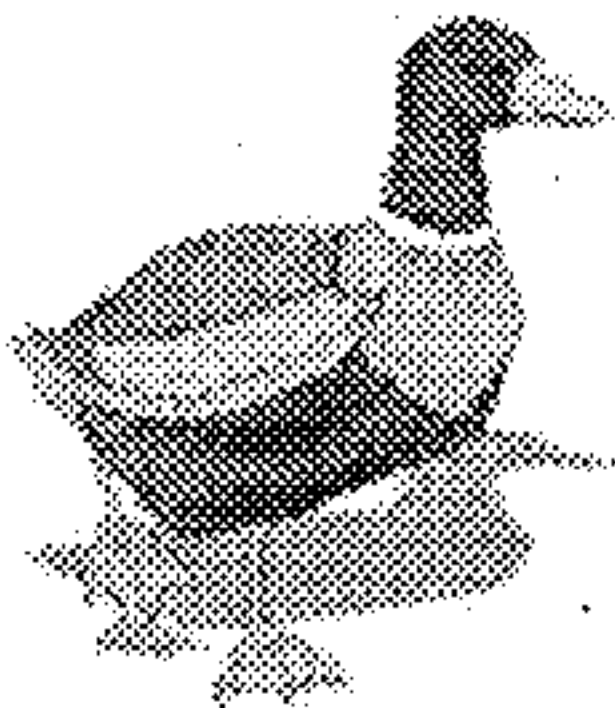
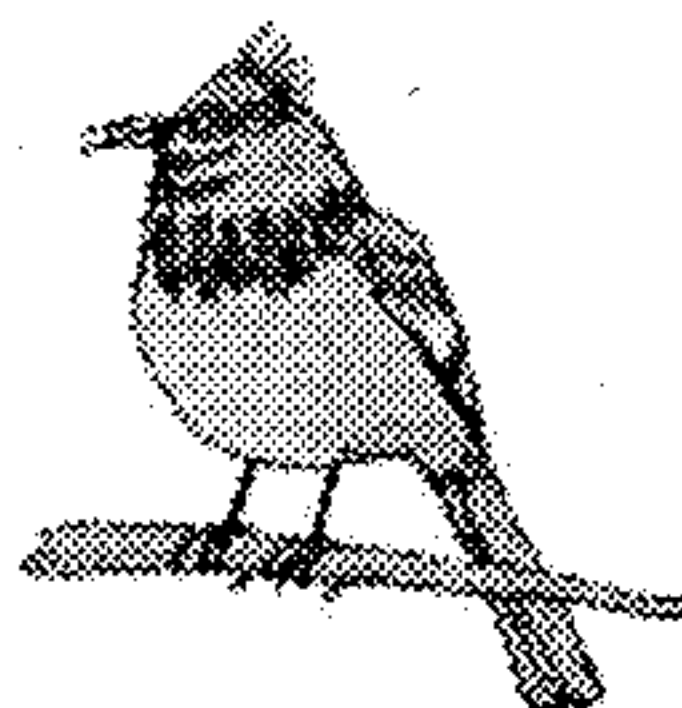
1) Grouping means putting those things together which are___________________. (different, similar).

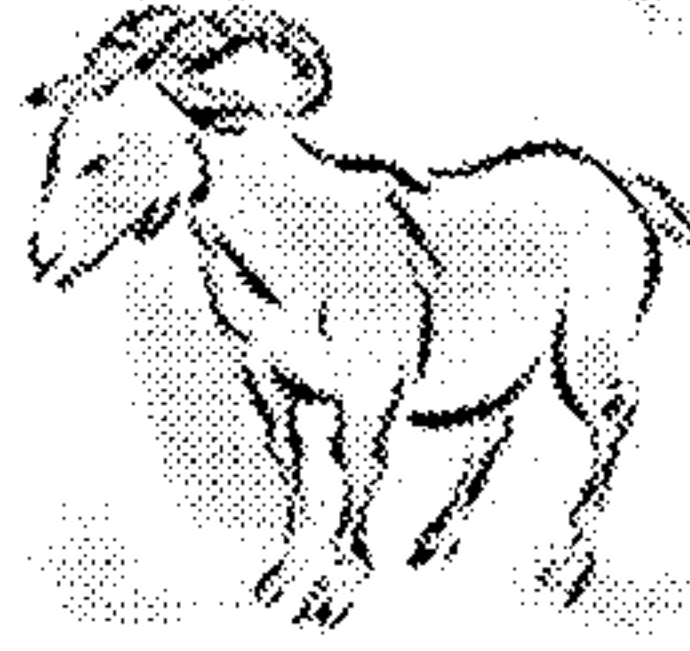
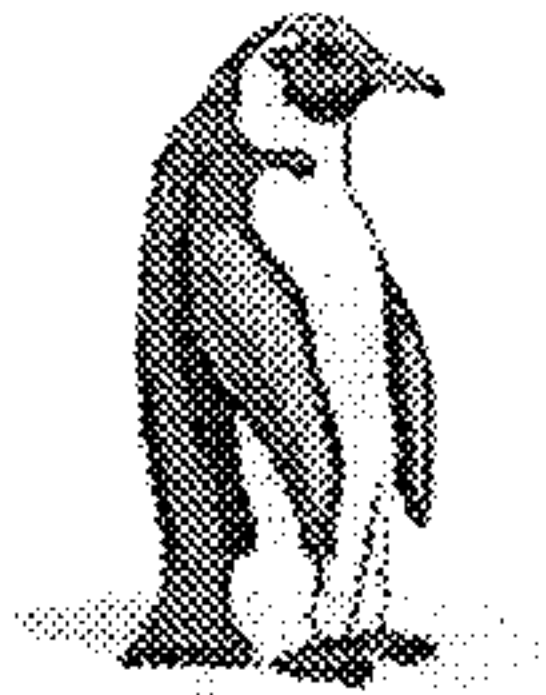
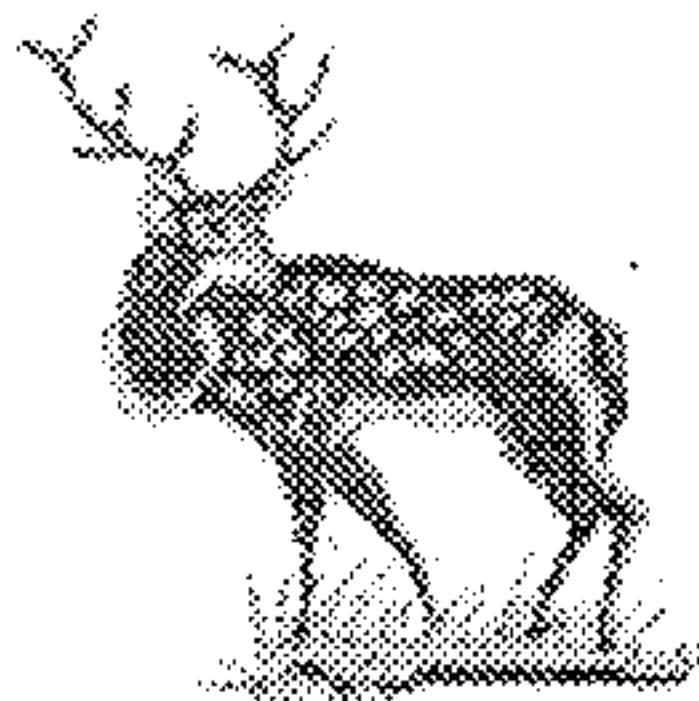
2) Grouping makes things___________________ to find and study. (easy, difficult)

Q 2) Read the list and put these things into different groups as given in the table.

List: Plant, Rabbit, Apple, Pen, Cap, butterfly, chocolate, bottle, rice, lion, Pencil, Girl, Sugar.

Living things	Non Living things	Food

Q 3) Look at these pictures and sort these animals in groups as given in the table.

Animals with fur	Animals with feathers

Q 4) Sort these animals in groups as given in the table.

Animals with short tails	Animals with long tails

Level 2		Life Systems
Term 1	Lesson Plan	Animals
Week1		
Day 2		

Topic: Growth and changes in animals

Objective: To identify different groups of animals

Activity: Grouping animals

Materials: Plenty of animal pictures, including all categories, Mammals, fish, birds, reptiles, & amphibians.

Procedure

Warm-up Q/A

- Remind the students about previous lesson about grouping things
- Ask, why do we group things?
- Listen to their responses then tell,
- Just like we group different things animals are grouped also.
- Animals are grouped so that they are more easily studied and discussed by scientists and others.
- Explain that the following activity will help students learn about the categories of animals.
- Do not give any clues at this time as to how animals are to be categorized.
- Students will come up with their own unique system of grouping.

Activity:

- Divide students into small groups of 3-5.
- Give each group a lot of animal pictures.
- After all pictures have been distributed.
- Tell each group to divide their pile of pictures into 5-7 smaller categories.
- This is done through small group discussion and consensus within the group.

Follow up discussion

- After each group has categorized their pictures, bring the entire class back together.
- Invite one person from each group to explain why they grouped their pictures as they did.
- They will come up with groupings by color, size, shape, eating habits, living habits, size of ears and tails, covering etc.
- They will come up with categories you and I would never dream of!

Explanation

- Then explain to the class about the actual categories that scientists have divided animals into. Animals are of different sizes, colors and shapes.
- Scientists have grouped animals by looking at their similarities.
- Discuss these groups **Birds, Mammals, Amphibians, Fish, Reptiles and Insects.**
- **Write these groups on the board.**
- Explain why it helps scientists to have animals broken down into smaller groups.

- (It becomes easier for scientists to study animals).
- Show students pictures of each category.
- **Wrap-up Q/A**
- What are different groups of animals?
- Why are animals divided in groups?

Level 2		**Life Systems**
Term 1	**Lesson Plan**	**Animals**
Week 1		
Day 3		

Topic: growth and changes in animals
Objective: To identify different groups of animals
Activity: Grouping animals
Materials: Animal classification worksheet
Procedure
Warm-up Q/A

- Remind the students about previous lesson about grouping animals
- Ask, why are animals divided into groups?
- What are different groups of animals?
- Listen to their responses and discuss.

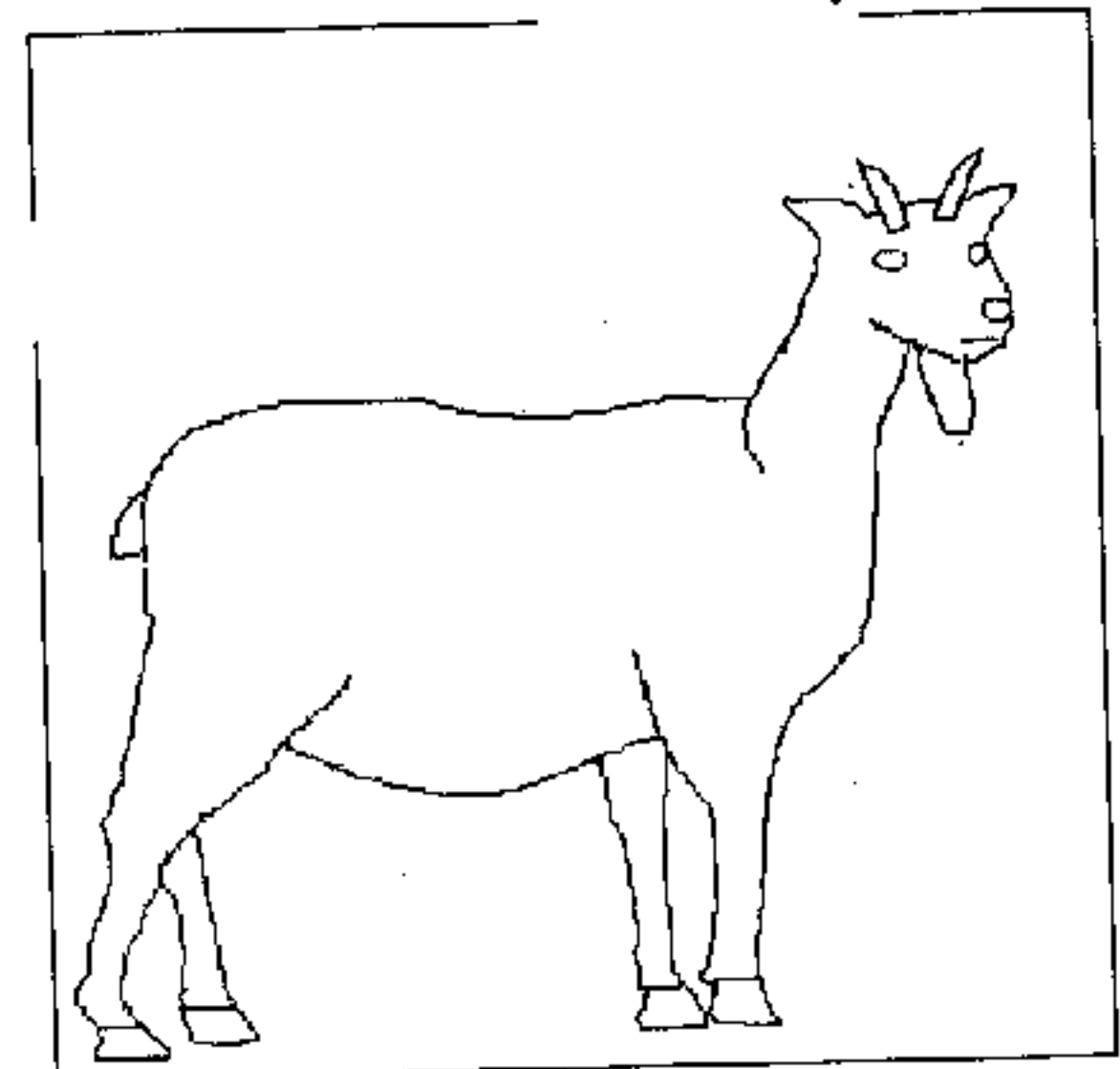
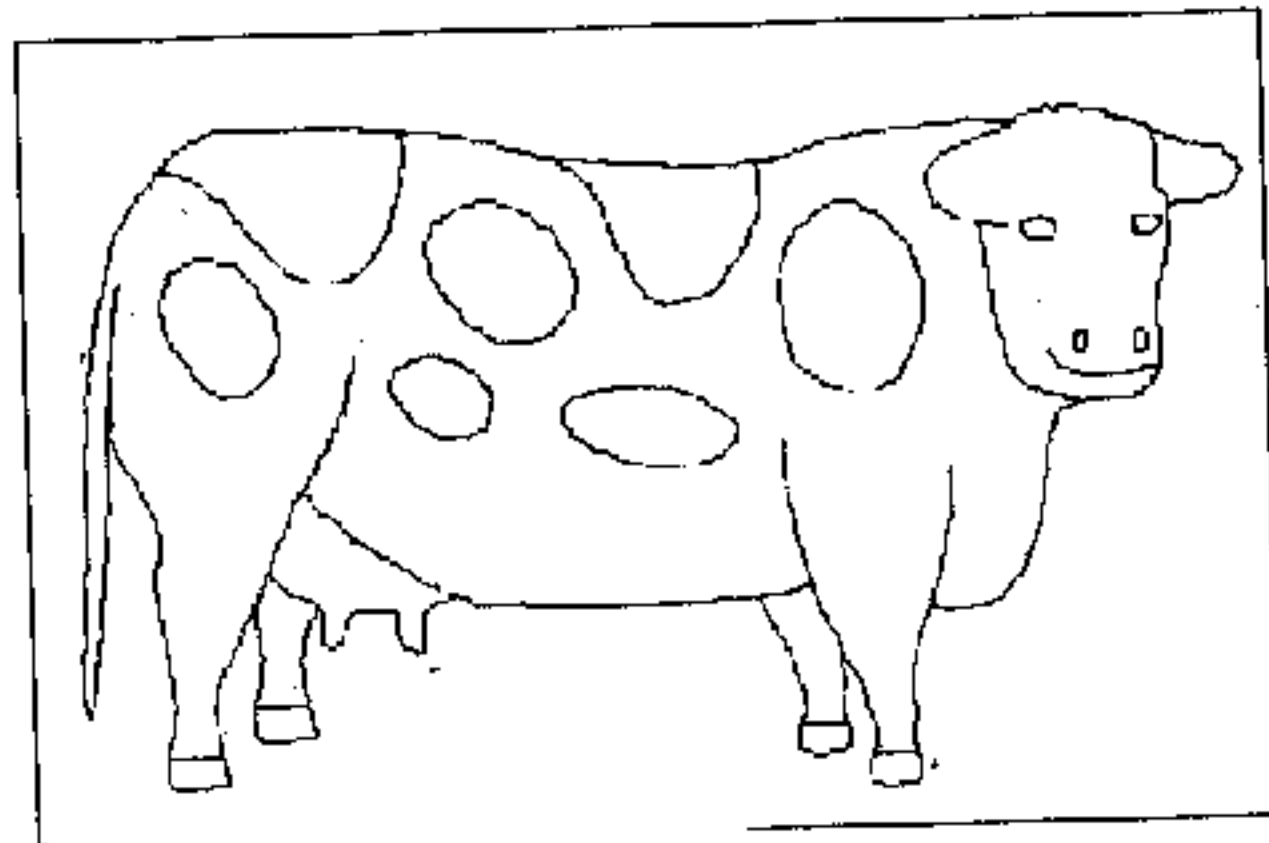
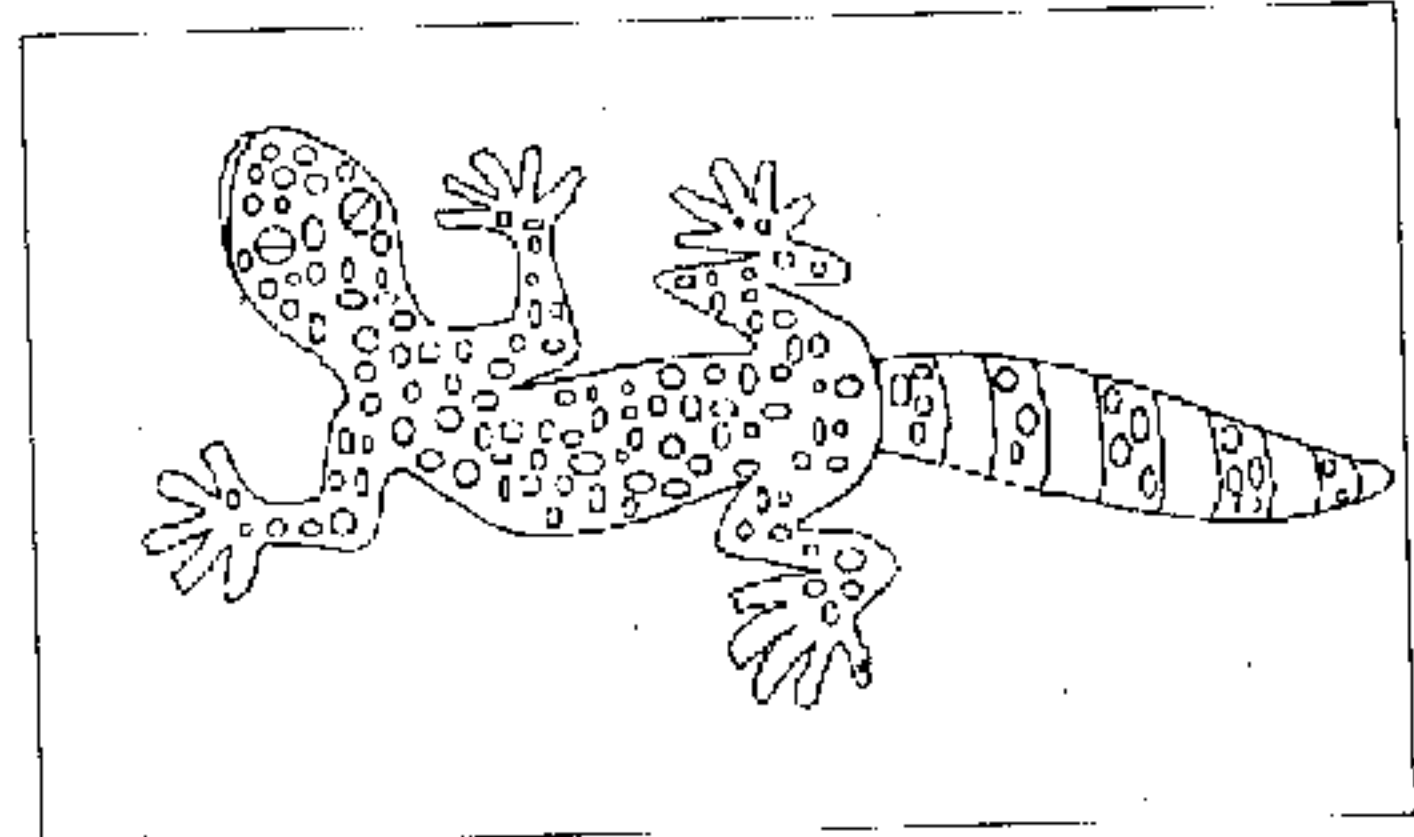
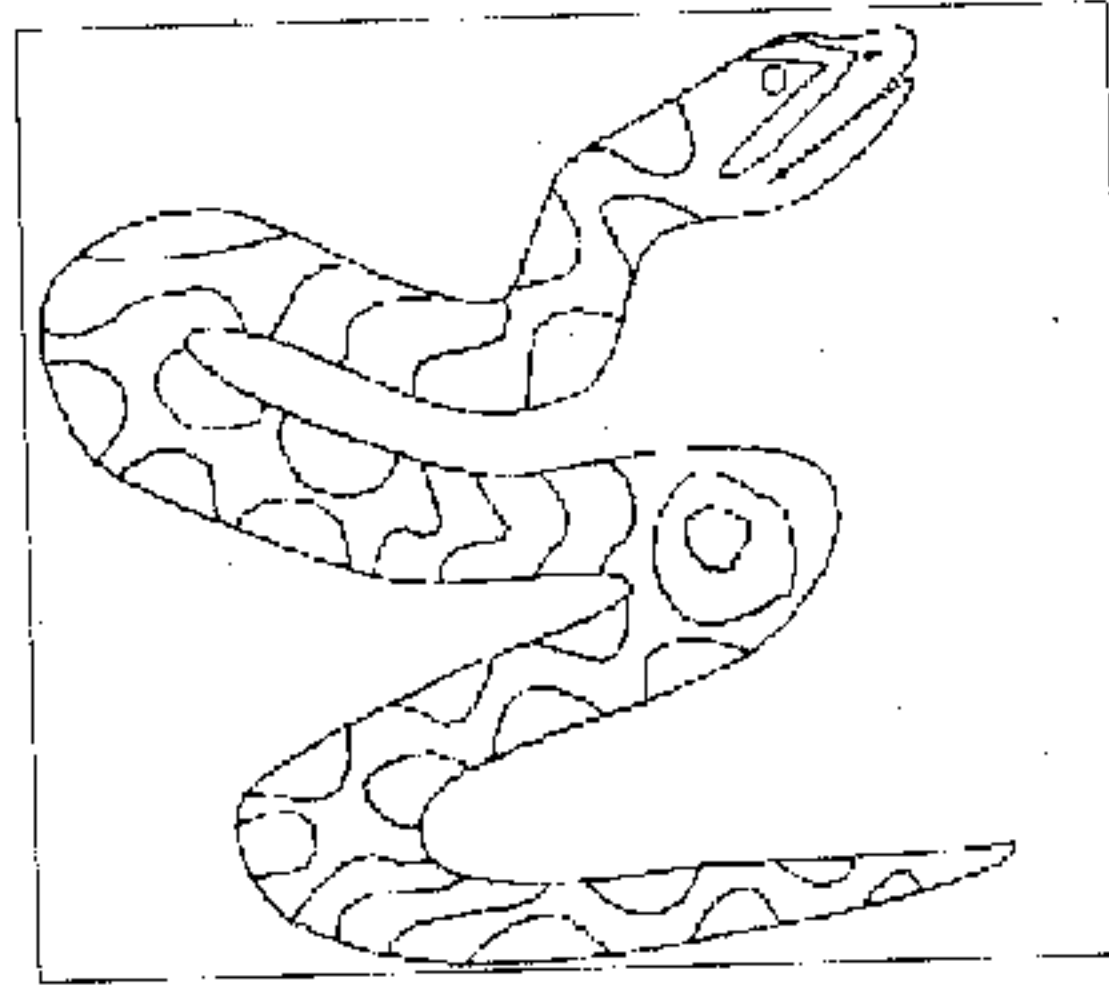
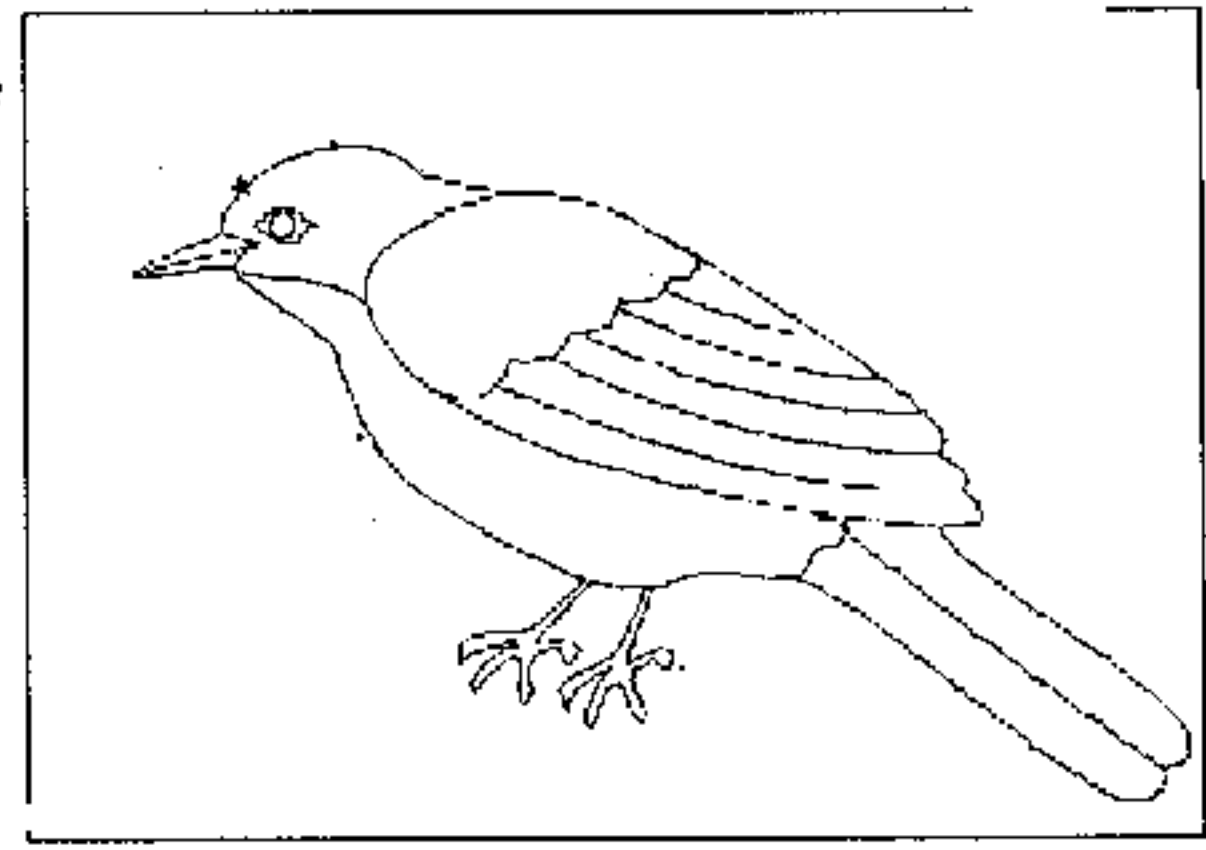
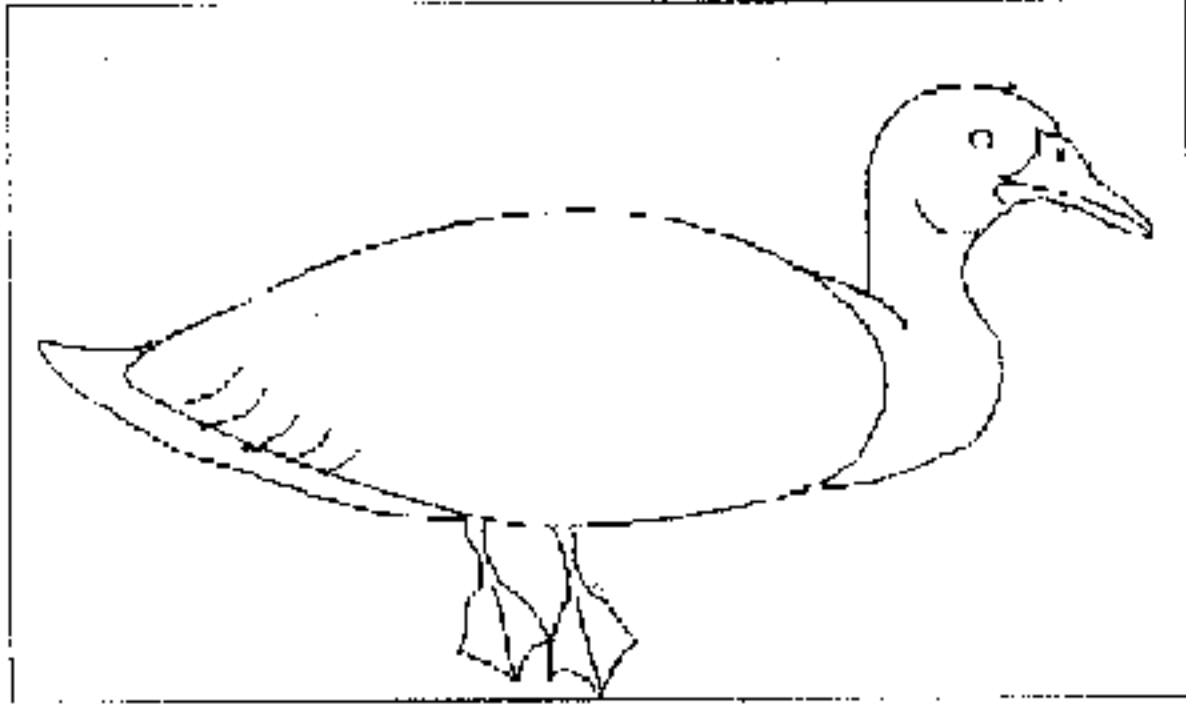
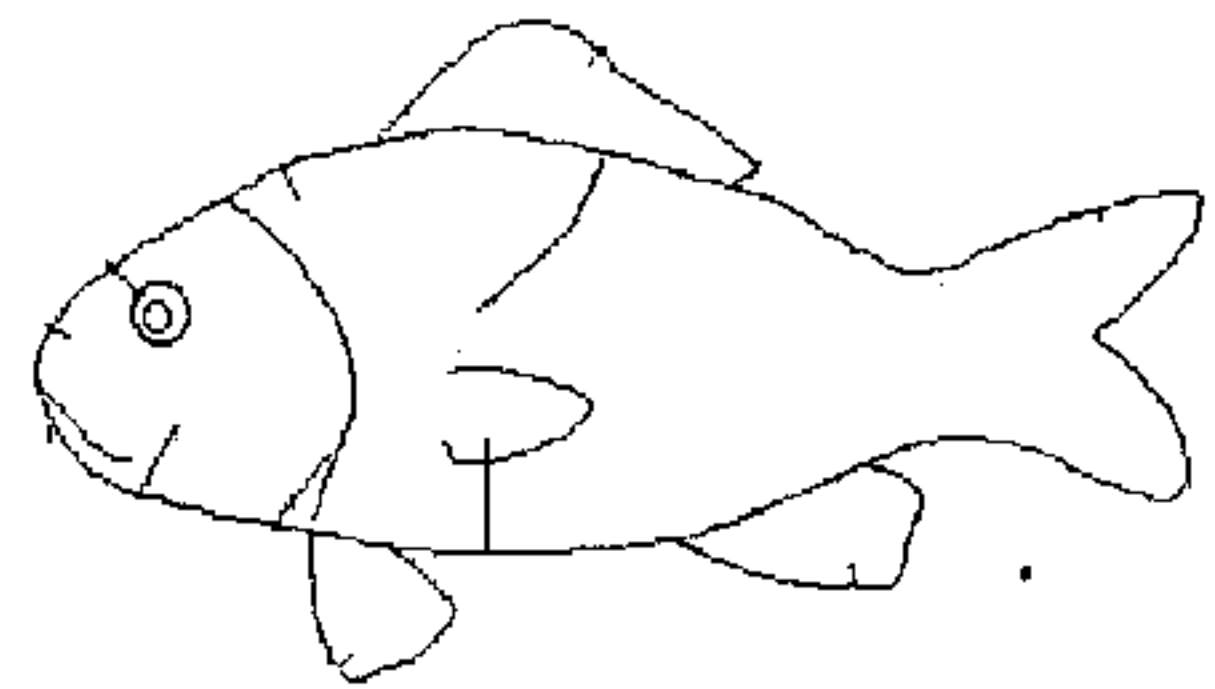
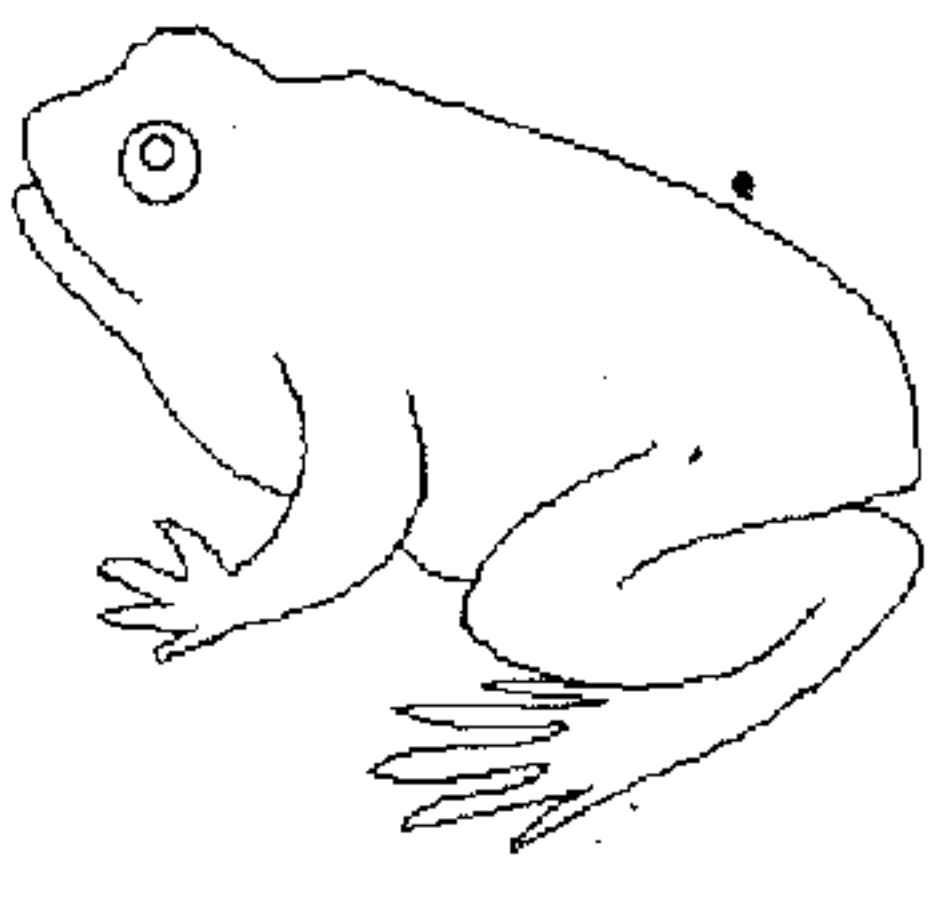
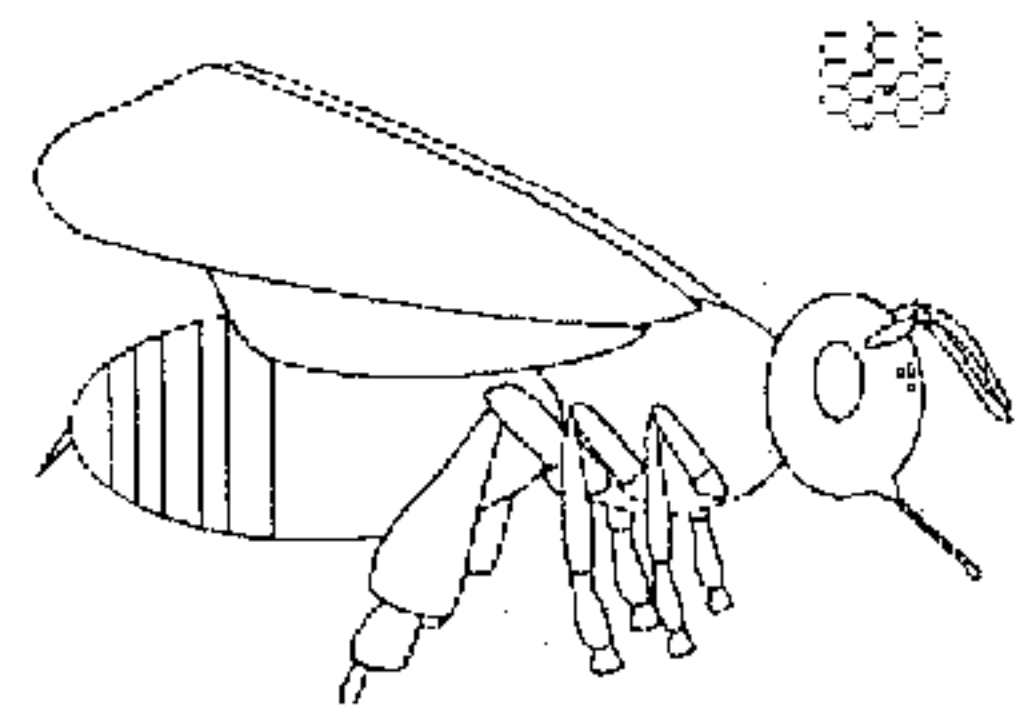
Activity: written work

- Distribute the worksheet and explain the task.

H.W Learn the names of animals and the group they belong to.

Level: 2 Term: 1
Week: 1 Day: 3

Animal classification
Worksheet

Write down the names of these animals. What group of animals do they belong to? Color the Pictures.

Level 2		Life Systems
Term 1	Lesson Plan	Animals
Week 1		
Day 4		

Topic: growth and changes in animals
Objectives:

1. Students will be able to identify characteristics of fish.
2. Students will be able to identify characteristics of birds.

Activity: sorting pictures, discussion

Materials:

- Pictures of birds and Fish
- Pencils, chalk

Procedure

Warm-up Q/A

- Students will discuss, in a large group, ways in which animals can be classified or grouped.
- Ask,
- What are the different ways of grouping animals?
- What are the different groups of animals?
- Students' answers will be noted on the chalkboard.
- **Activity**
  Begin by dividing the class into groups of two or three.
- Give each group a set of pictures (3 birds and 3 fish).
- Ask students to sort the pictures into two groups.
- How students sort the pictures is up to them.
- After the pictures have been sorted, students will mount them on board to display to the class.
- Then students will share with the class why they have sorted the pictures in this way.

Follow-up discussion

- Invite the students to share their work.
- Ask,
  How did the students divide their pictures?
- Have each group explain how did they chose to group the pictures?

- As they explain, write down key ideas on the board, so the whole class can see the different ways of thinking.
- Then ask,
- To which group of animals they belong to?

Discussion/Explanation
Draw this chart on the board.

- Before listing the characteristics spark the conversation by asking the following questions:
- Do you have any idea how do these animals breathe?
- How do these animals give birth?
- How do they stay warm?
- How do they move?
- List the common characteristics of birds and fish.

Birds	**Fish**
Have back bone **Most of them can fly** **Have feather and wings** **Breath through lungs** **Lay eggs** **Have beaks**	**Have back bone** **Live in water** **Have scales on the body** **Breathe through gills** **Lay eggs in water**

- Review your list with the class.
- Explain these features common to all birds and fish.
- Explain that animals are only classified as fish and birds if they
- Have these features.
- **Fish have backbone, have scales on their bodies, are cold-blooded and lay soft eggs in water.**
- **Explain the term cold-blooded, their body temperature changes with the changing climatic conditions (cold-blooded).**
- **Birds have backbone, have feathers, lay eggs with hard shells and most of them can fly.**
- **Birds are warm blooded (their body temperature remains the same). Tell the students we are also warm-blooded our body temperature remains the same no matter what the climatic temperature is.**

- Ask the students to give examples of the fish and birds they know and have seen. List the examples on the board e.g. gold fish, salmon, sparrow, crow etc

Wrap-up Q/A

- Invite the students to share one characteristic of the birds and fish.
- As they tell refer to the chart on board and explain it for the students.

Level 2		Life Systems
Term 1	Assessment	Animals
Week 1		
Day 5		

Note: Use worksheets with the lessons for assessment.

Science Lesson Plans

Level 2
Term 1
Week 2

Week	Curriculum Strand	Topic	Day	Specific Objectives	Home work
2	Life Systems	Growth and Changes in Animals	1	To identify characteristics of fish and birds	H.W
2		do	2	To identify characteristics of fish (making an ocean scene).	
2		do	3	To identify characteristics of fish (making an ocean scene).	
2			4	To identify characteristics of birds (making a bird book)	
2		do	5	Assessment	

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Level 2		Life Systems
Term 1	Lesson Plan	Animals
Week 2		
Day 1		

Topic: growth and changes in animals

Objectives:

1-Students will be able to identify characteristics of fish.

2-Students will be able to identify characteristics of birds.

Activity: discussion, written work

Material: copy of worksheet, pencils, colors, chalk

Procedure

Warm-up Q/A

- Revise the concept introduced yesterday.
- Discuss these features with the students.
- Ensure by asking questions that all of them have understood.
- What are the main features of fish?
- What are the main features of birds?

Activity: Worksheet

- Distribute the worksheet and explain the task.

Wrap-up Q/A

How would you know if an animal is a bird?

How would you know if an animal is a fish?

H.W revise the work done in class

Level: 2 Term: 1
Week: 2 Day: 1

Fish and Birds

Worksheet

Q-1) What features do birds have?

Q-2) How do you know if something is a fish? Use the helping words from the list.

List: Have feathers, lay eggs, and have beaks for mouths, live in water, have scales on bodies, lay eggs, in water, breathe through gills.

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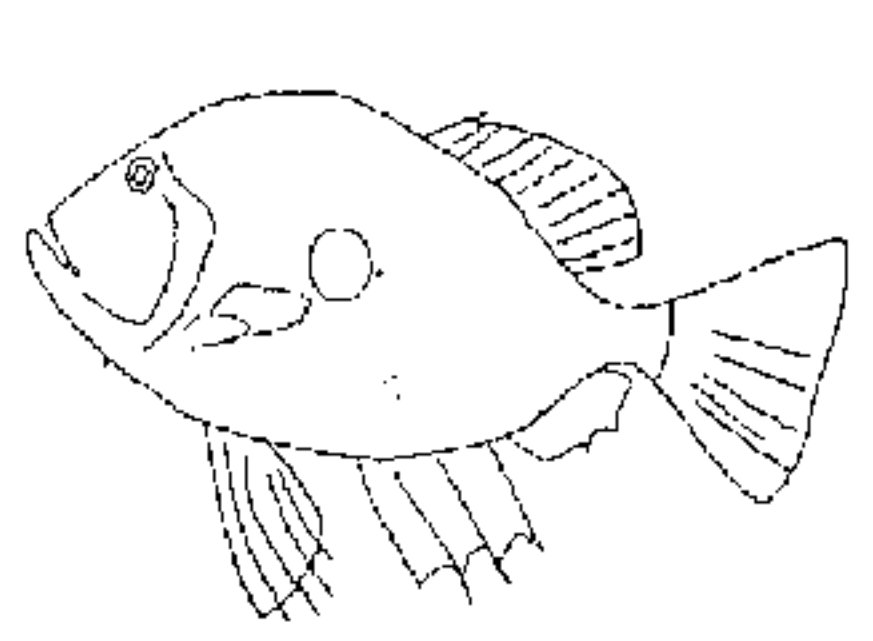
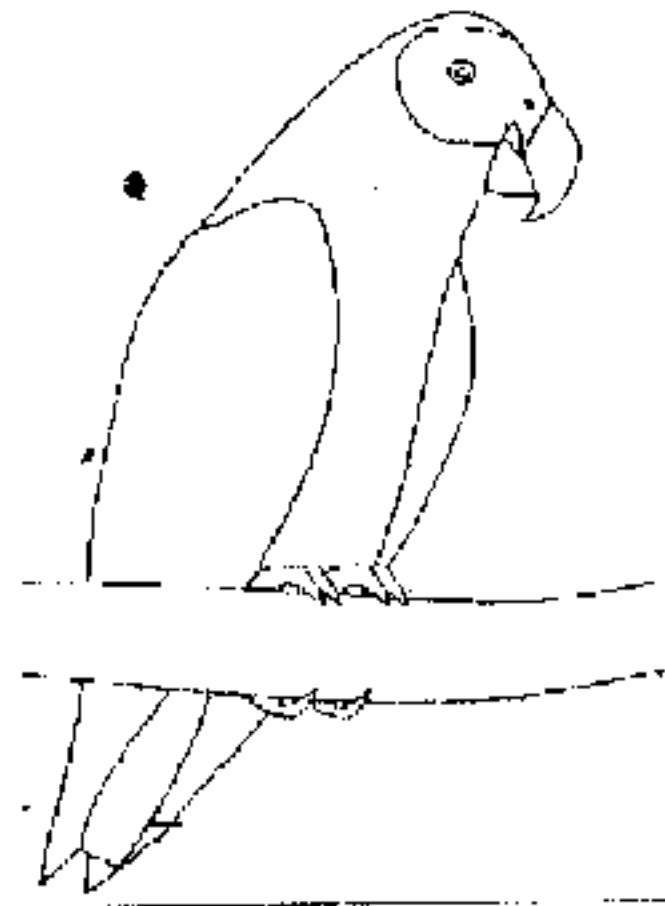

Level 2		Life Systems
Term 1	Lesson Plan	Animals
Week2		
Day 2 and 3		

Topic: Growth and changes in animals
Objective: To recognize various features of fish
Activity: making an ocean scene

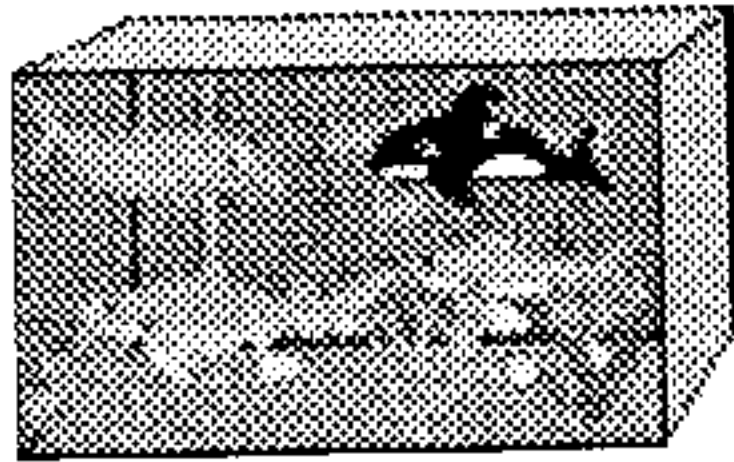
- **Materials:** Pictures of fish, or books with pictures of fish. Paper for drawing (stiff paper works best)
- Blue colored paper for cover the box from inside.
- A shoe box or slightly larger box
- Crayons and/or markers
- Tape
- Thread
- Scissors
- Optional: thin cardboard to glue to the back of the animals if your paper is very flimsy (old cereal boxes work well)

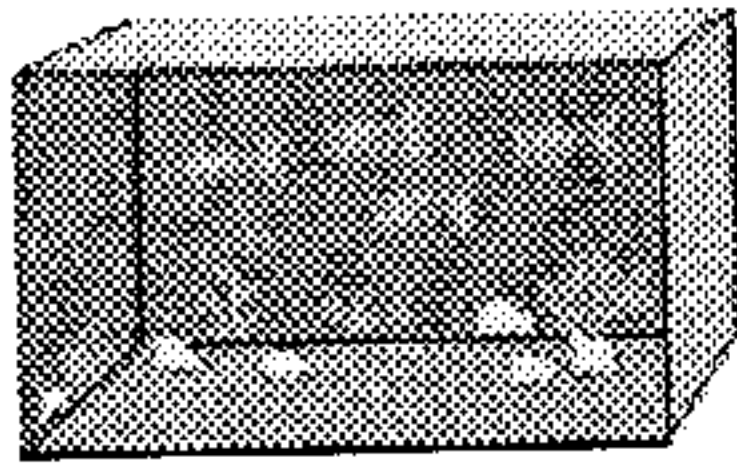
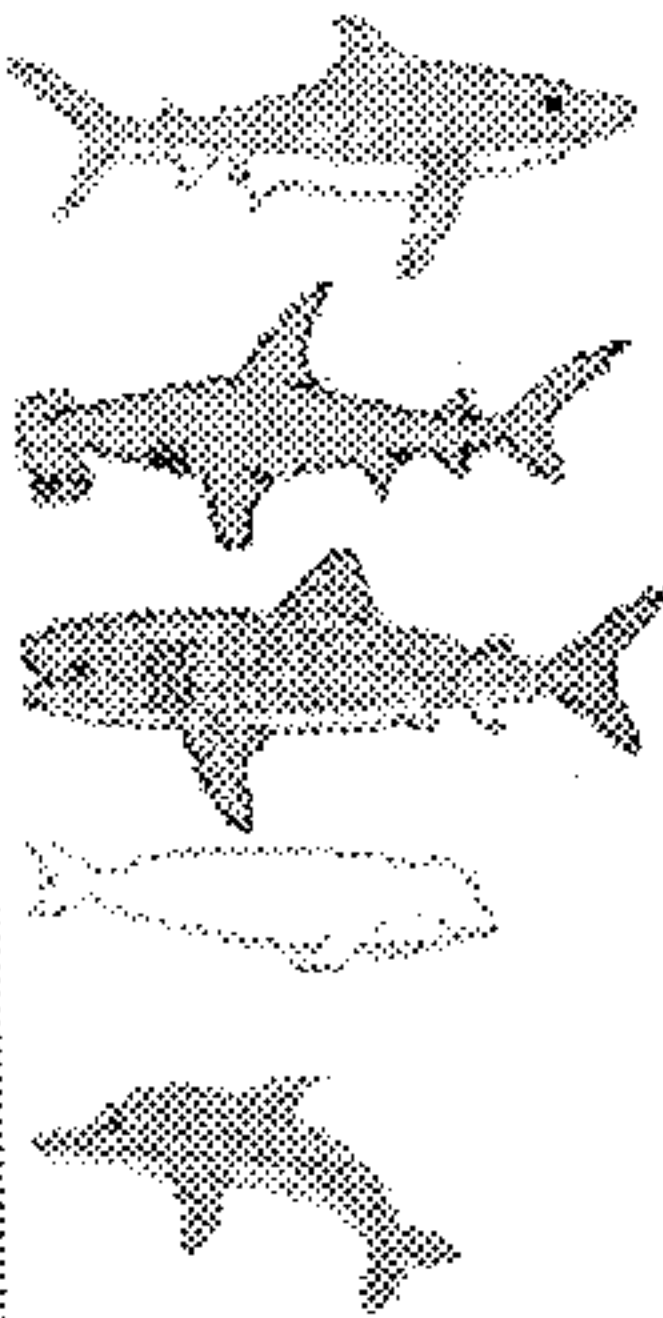
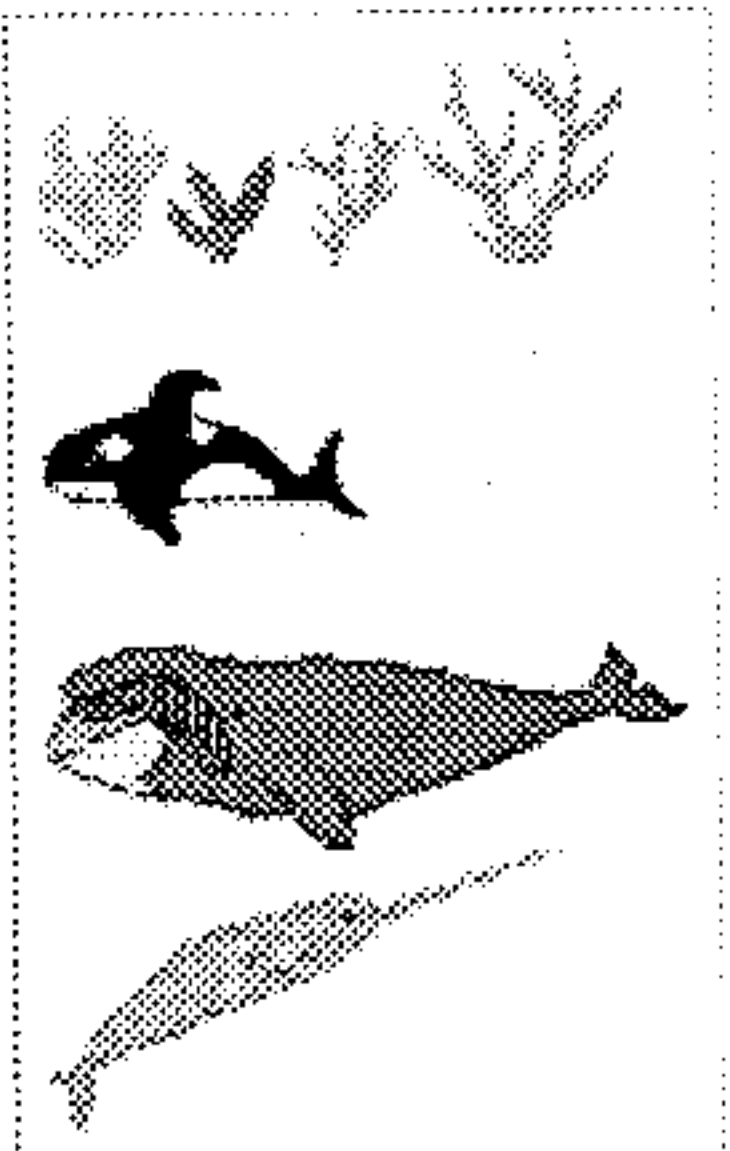
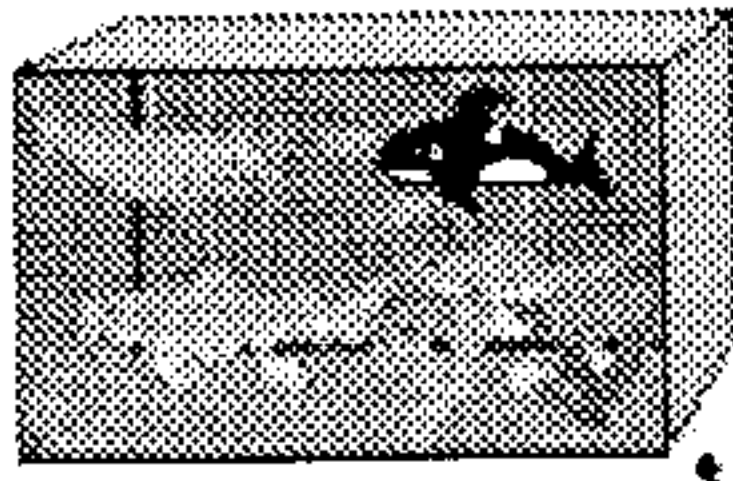
Procedure:
Warm-up Q/A
Revise the characteristics of fish.
Ask, What are the main features of fish?
Activity
- Divide the students into groups.
- Distribute the material among each group.
- If you have print outs of the fish, distribute them to each group ask them to color the fish and make cutouts.
- Other wise tell each group to draw different kinds of fish and color them such as shark, starfish, gold fish, seahorse, etc.
- Then make cut outs.
- Give some books with pictures of fish to the children to see. So they can have some idea about different shapes of the fish.
- Follow instruction given in the instruction sheets.
- Each group must write down main features of fish.
- Ensure that students in each group write their names on the display.

Wrap-up
- Display the ocean scenes prepared by each group in your class in a corner.
- Invite the students to describe what they have made and main features of the Fish.
- To encourage your students you can invite students from other classes to see.

Level: 2 Term: 1

Week: 2 Day: 2 and 3

Instruction Sheet

Ocean Scene

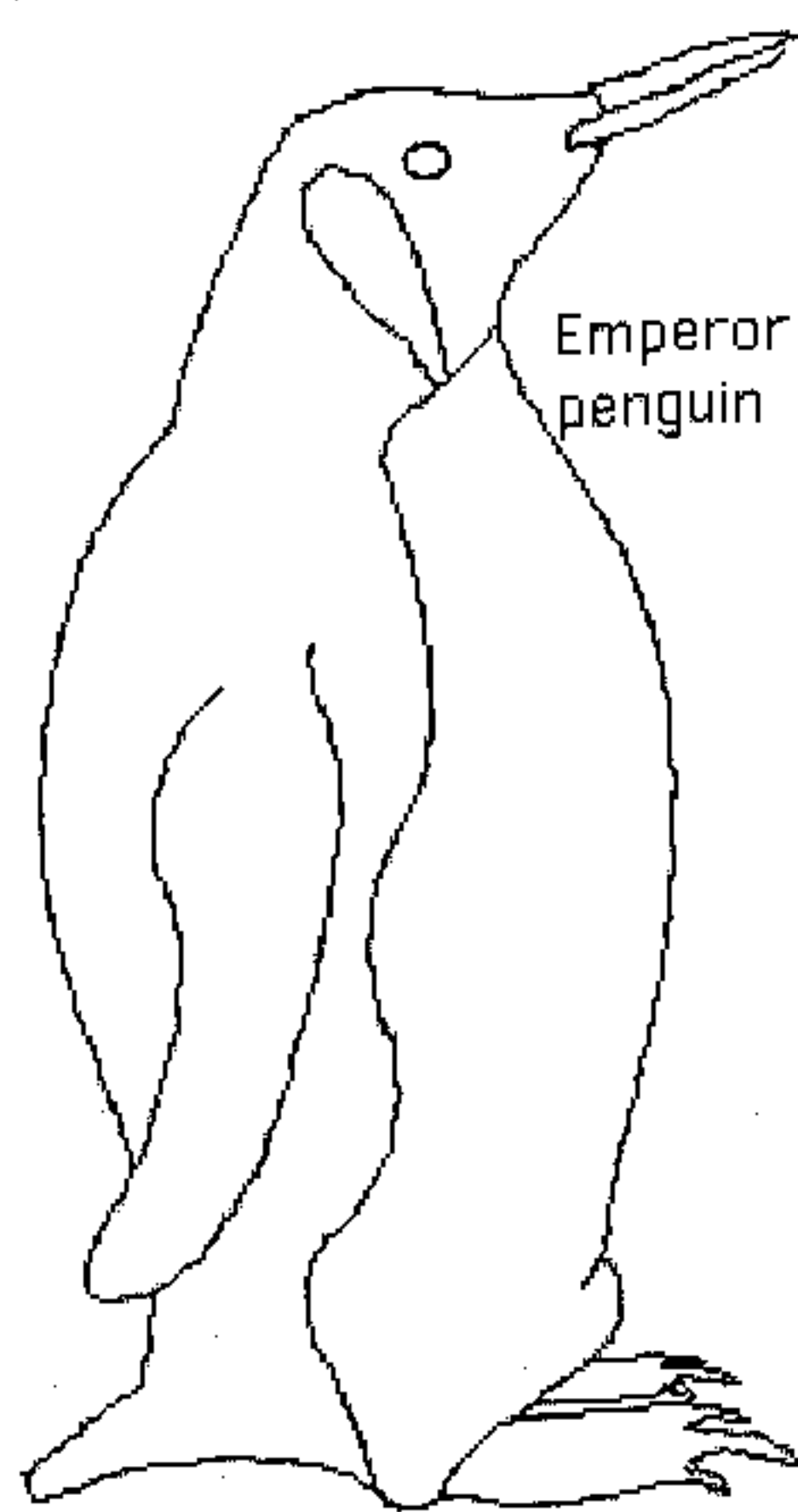
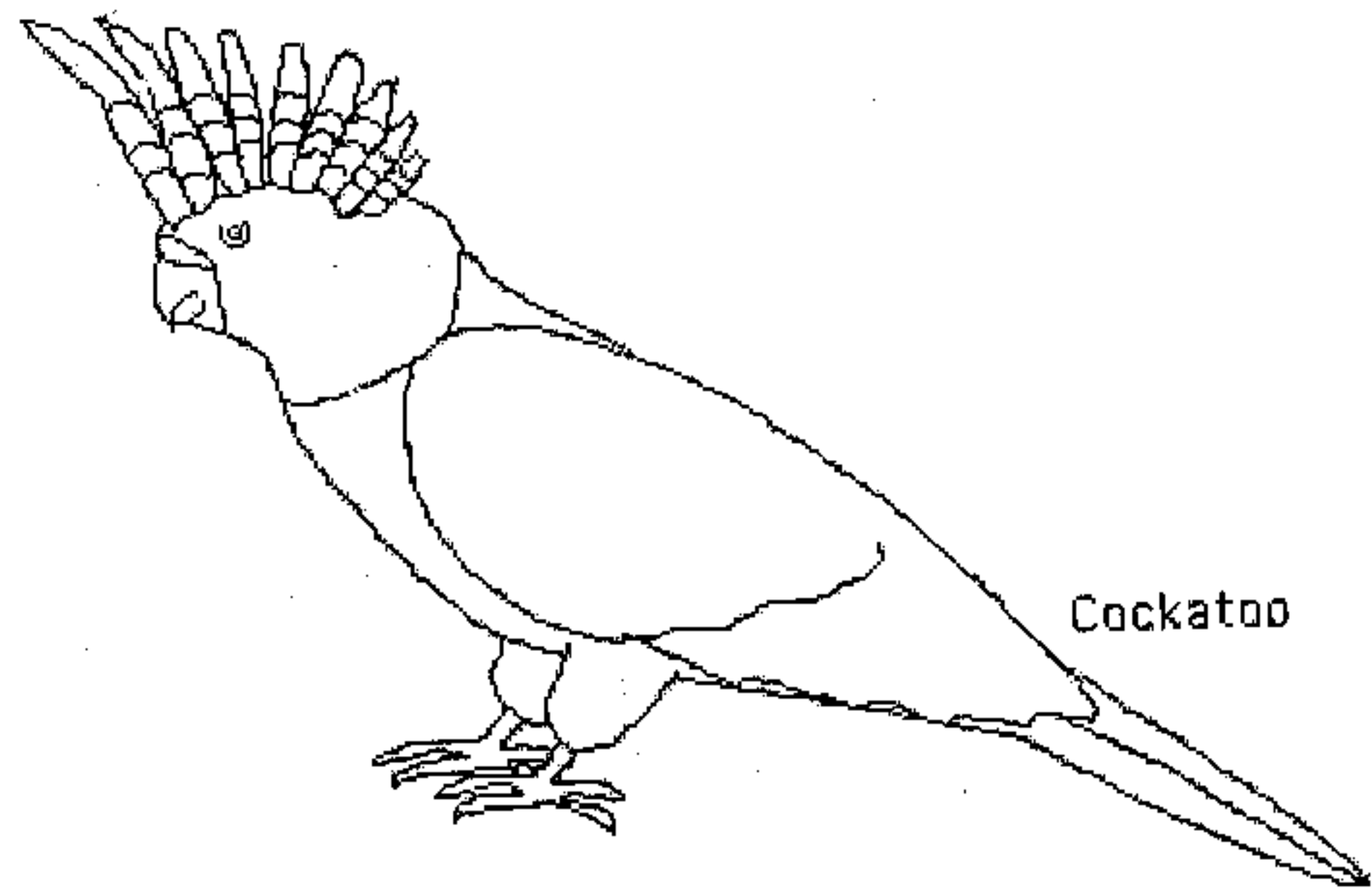
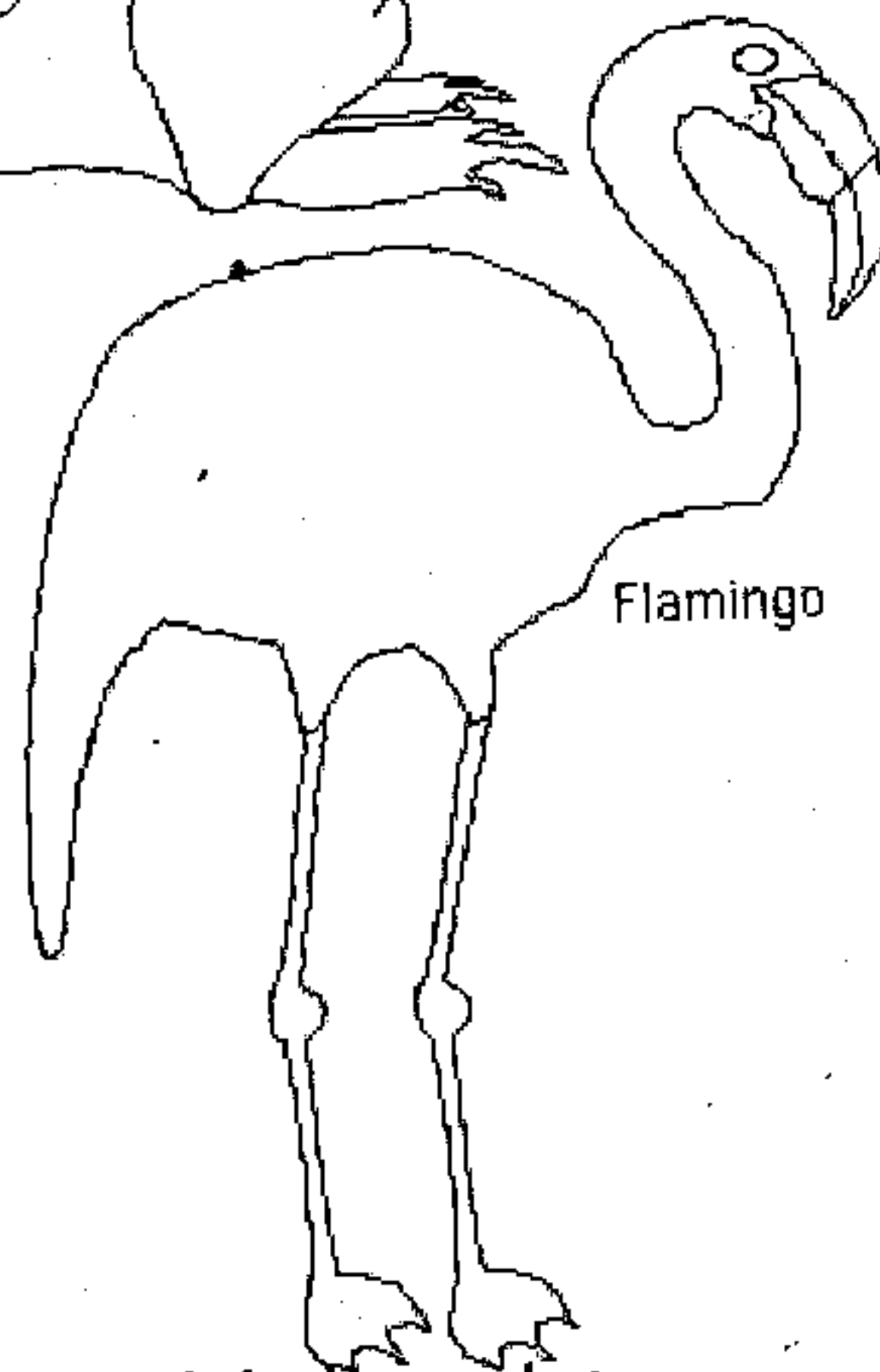
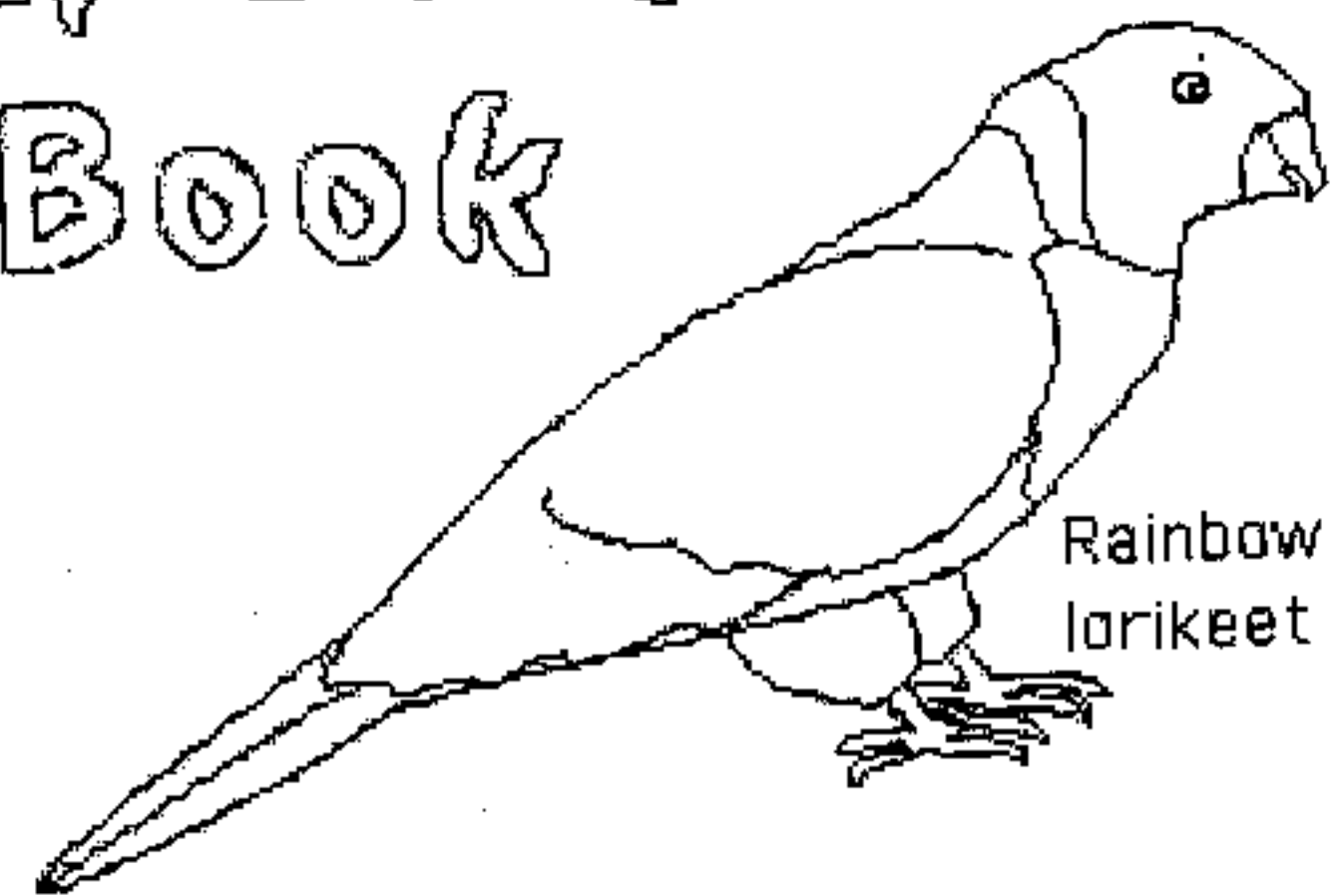
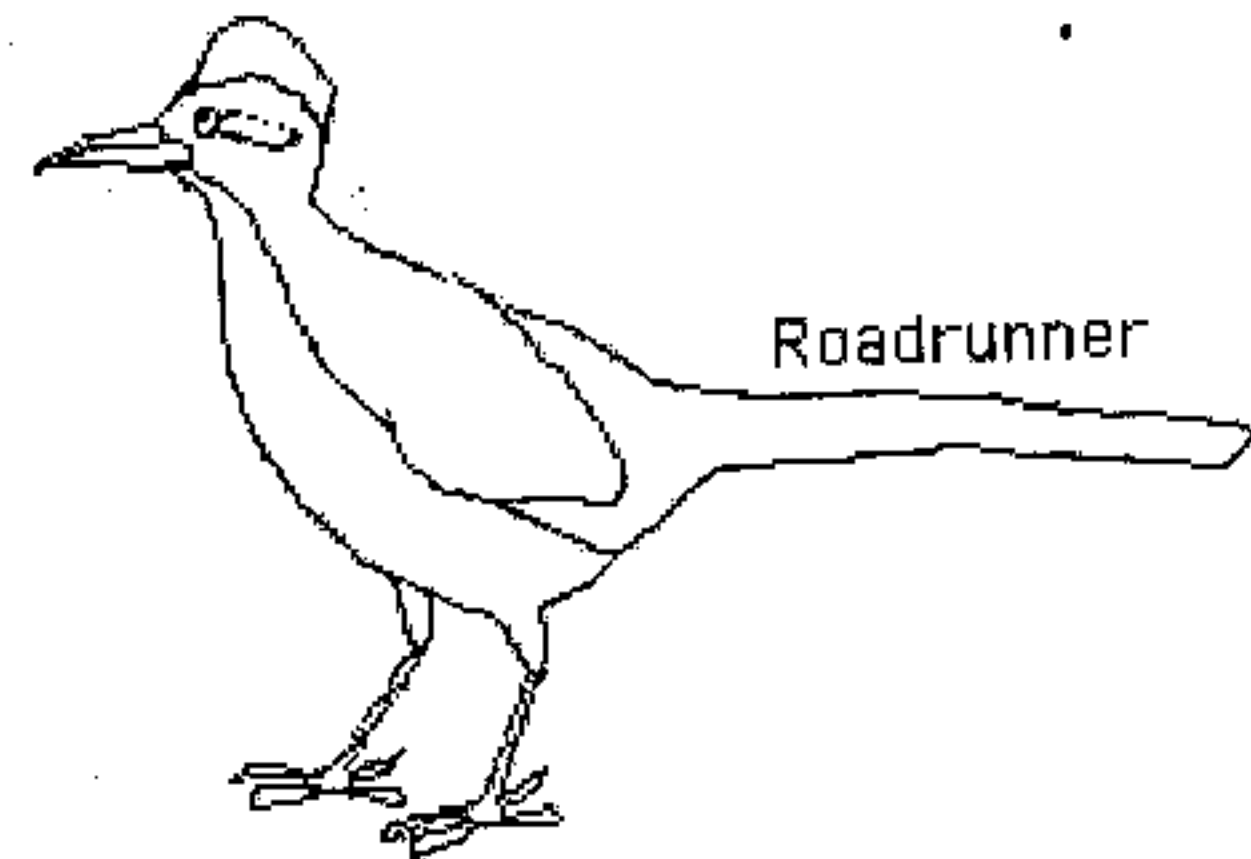
Create your own ocean scene in a box. Draw some seaweed, corals, and your favorite fish. Paste, color, cut, hang them in a decorated box, and enjoy the ocean

- Find a box at least as big as a shoebox - a slightly bigger box works even better. This will be the stage containing your ocean scene.
- Decorate the inside of the box to look like it's underwater. Draw the water, the ocean floor, rocks, coral, seaweed, fish, an octopus, bubbles, scuba divers, a submarine, etc. Glitter makes a wonderful addition - just sprinkle some on a little glue.

- Draw or Print out the animals you want to add in the scene.
- If your paper is very flimsy and you think your animals may bend too much, paste the cutouts onto thin cardboard (old cereal box). Let the paste dry.

- Using crayons or markers, decorate the animals and plants. Also, draw and decorate your own seaweed, corals, and favorite fish. Green chart paper or glaze paper cut in squiggly strips makes nice seaweed.
- Cut out the animals and plants.

- Hang the fish in the box using tape and thread. Tape your seaweed and coral to the bottom of the box.
- Enjoy your ocean scene!

Level 2		Life Systems
Term 1	Lesson Plan	Animals
Week 2		
Day 4		

Topic: Growth and changes in animals
Objective: To recognize different features of birds
Activity: Making a book about birds
Materials: Pictures or stickers of birds, A_4 size chart paper pieces as 1 per student, color pencils or crayons, punch to make holes, thin ribbon or string 1 meter to tie up the books, scissors, glue.
Procedure:

- Divide the class into groups.
- Distribute the papers and stationery to each group.
- Give instruction.
- Each group to work on birds of their own choice.
- Tell them, each child will draw and color birds on the page.
- They can stick pictures also if they have.
- Then,
- Ask them to write down some information about the birds such as,
- What are the main features of birds?
- What do they eat?
- Circulate in the class while students are working, giving them clues and guiding them.
- Do not give them any sample. Let them be creative and draw what they think and imagine.
- After they complete, bind the pages into a booklet.
- You can bind more than one booklet also if there is larger number of children.
- Put a title at the top.
  (You can make this from the print out)
- Ensure that each child had his or her name on the page.

Wrap up

- After the booklet is ready.
- Show it page by page to the whole class.
- Call the name of each child and appreciate his or her work by giving nice comments.
- Display the booklets in class.

Level : 2 Term: 1
Week : 2 Day : 4.

This book belongs to: ______________________.

Today's date is ______________.

Level 2		Life Systems
Term 1	Assessment	Animals
Week 2		
Day 5		

Task:

Q 1) Draw and color your favorite bird? How do you know if an animal is a bird?

Q 2) What features do fish have? Draw and color a fish?

Science Lesson Plans

Level 2
Term 1
Week 3

Week	Curriculum Strand	Topic	Day	Specific Objectives	Home work
3	Life Systems	Growth and Changes in Animals	1	To identify characteristics of mammals	
3		do	2	To identify characteristics of mammals (written work)	H.W
3		do	3	To identify characteristics of mammals (making masks)	
3			4	To identify characteristics of mammals (role play)	
3		do	5	Assessment	

Level 2		Life Systems
Term 1	Lesson Plan	Animals
Week 3		
Day 1		

Topic: growth and changes in Animals.
Objective: Students will be able to identify the major characteristics of mammals.
Activity: Inventing a mammal
Materials: pictures of mammals, colors, pencils, chalk
Procedure
Warm-up Q/A

- In what groups animals are divided into?

- Show the class pictures of five very different mammals, such as a cat, kangaroo, horse, rabbit, and monkey.
- To which group of animals they belong to?
- Ask students what these five mammals have in common and mark their responses on a sheet of chart paper.
- Spark the conversation by asking the following questions:
- How do these animals give birth?
- How do they stay warm?
- How do they move?
- Label the list of common characteristics with the title "Mammal characteristics."

Mammal characteristics
Have back bone
Hair on the body, some have long thick fur, some have very little hair.
Nurse their babies with milk
Give birth to babies
Warm blooded their body temperature remains the same.

Explanation

- Review your list with the class.
- Explain these features common to all mammals.
- Explain that animals are only classified as mammals if they nurse their babies with milk and have hair, even if only very little.
- Those are the only characteristics required of all mammals, but most mammals give birth to live young, maintain a constant body temperature despite changing climatic conditions (warm-blooded),
- Ask the students to give examples of the mammals they know. List the examples on the board e.g. cow, goat, dog, cat, horse etc

Activity: pair work

- Divide the students into pairs.
- Give each pair a sheet of white drawing paper.

- Tell them, each pair of students will create their own mammal, based on the mammal characteristics they have learned about.
- The animal has to show at least one mammal quality.
- Have the students name their mammals.

Follow-up discussion

- Invite the students to share their work.
- Have each group explain characteristic they chose for their mammal.
- As they explain, write down key ideas on the board, so the whole class can see the different ways of thinking.

Wrap-up Q/A

What characteristics do mammals have?

Level 2		Life Systems
Term 1	Lesson Plan	Animals
Week 3		
Day 2		

Topic: growth and changes in Animals.
Objective: Students will be able to identify the major characteristics of mammals.
Activity: written work
Materials: Worksheet
Procedure
Warm-up Q/A

- Revise the concept introduced yesterday.
- Distribute the worksheet and explain the task.

H.W Revise the work done in class.

Level: 2 Term: 1
Week: 3 Day: 2

Mammals
Worksheet

Look at these animals, how do you know they are mammals? Write down their main features? Name these animals too.

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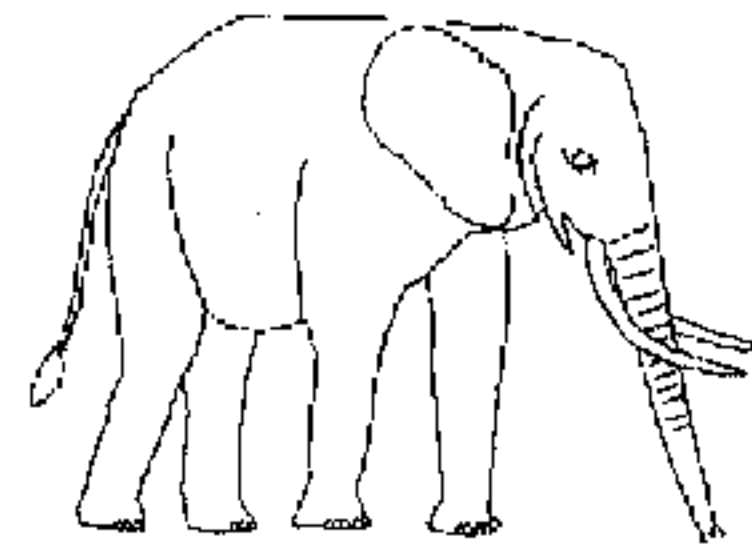
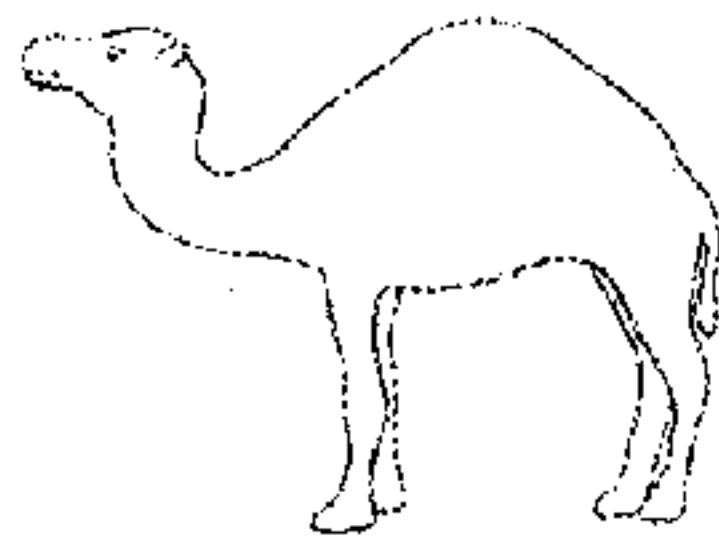

Level 2		Life Systems
Term 1	Lesson Plan	Animals
Week 3		
Day 3 and 4		

Topic: Growth and changes in animals
Objective: To recognize different features of mammals
Activity: Making mammal masks
Materials:

- Chart paper
- Markers or crayons
- Scissors
- A stapler
- Elastic - about 1 foot per mask.

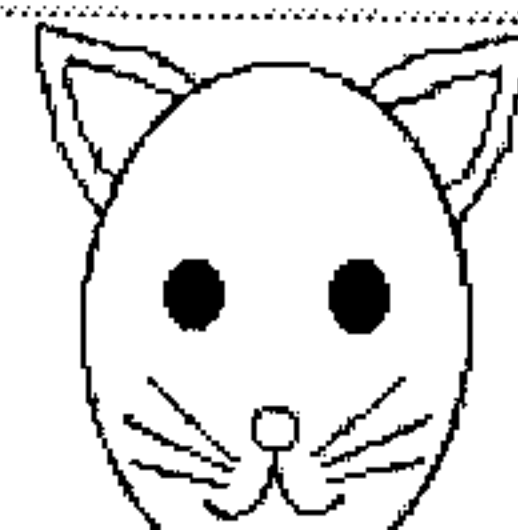
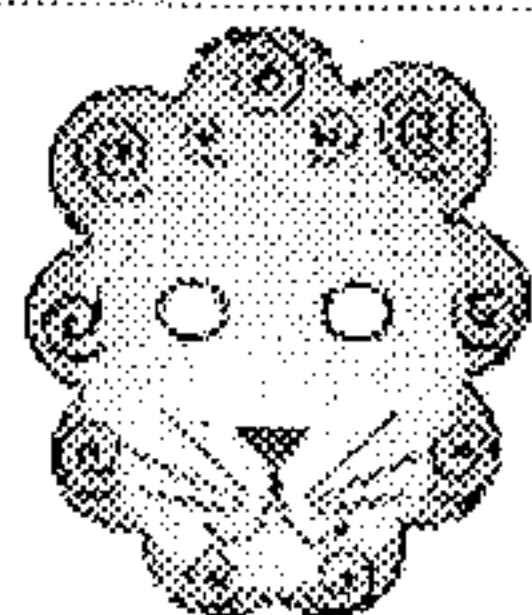
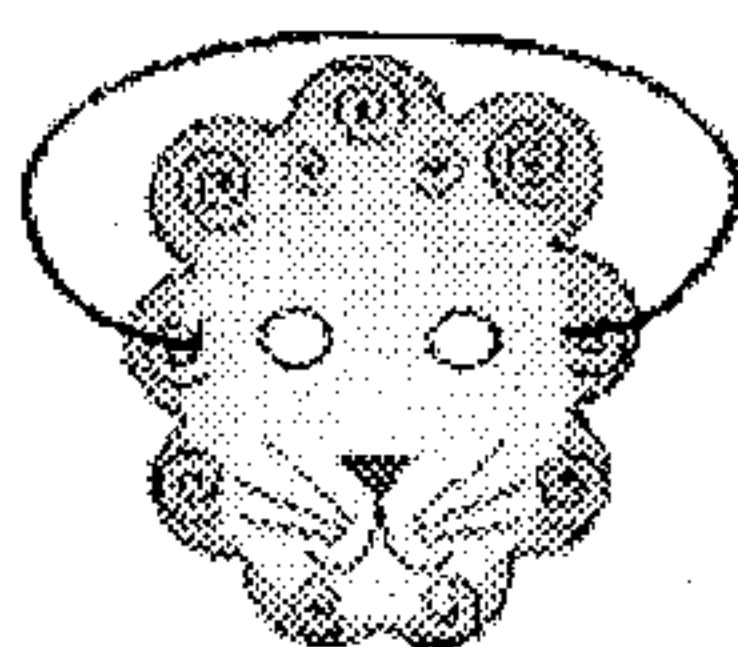
Procedure
Activity
- Draw mammal faces on the chart paper (get help from the art teacher).
- Each child must get a mammal face.
- Ask the students to color it and then make a cut out.
- Follow the instructions given in the instruction sheet to prepare a mask.

Follow-up discussion
- After the preparation of masks invite each child to show it to the class.
- Ask the students to speak few lines to describe about features of the animal they have made the mask about.

Additional activity
Role-play
- After preparation of masks organize a mammal role-play.
- Each child must speak one line to describe the characteristic of the mammal he or she has chosen to be e.g. I am a cat. I am a mammal. I have hair on my body.

Level: 2 Term: 1
Week: 3 Day: 3 and 4

How to make a mask

Draw faces of mammals on the chart paper. Make as many mammal faces as you require for your class. Get help from the art teacher.

- Color the mask.
- Cut out the cut it out around the edges and cut out the eyeholes.

- Staple one end of the elastic onto the mask (the places for the staples are marked and are by the eyes).
- Determine how much elastic it will take to fit on your child's head. Trim to size.
- Staple the remaining side of the elastic to the other side of the mask.

Level 2		Life Systems
Term 1	Assessment	Animals
Week 3		
Day 5		

Task:

Q 1) What features do mammals have? Draw and color you favorite mammal.

Science Lesson Plans

Level 2
Term 1
Week 4

Week	Curriculum Strand	Topic	Day	Specific Objectives	Home work
3	Life Systems	Growth and Changes in Animals	1	To identify characteristics of reptiles	H.W
3		do	2	To identify characteristics of reptiles (making a book of reptiles)	
3		do	3	To identify characteristics of insects	
3			4	To identify characteristics of insects (written work)	H.W
3		do	5	Assessment	

Level 2		Life Systems
Term 1	Lesson Plan	Animals
Week 4		
Day 1		

Topic: Growth and changes in animals
Objective: Students will be able to identify the major characteristics of reptiles.
Activity: Identifying reptiles
Materials: pictures of reptiles, worksheet
Procedure
Warm-up Q/A

- Ask,
- What are the groups in which all animals are divided into?

- Show the class pictures of four very different reptiles, such as a snake, lizard, crocodile and turtles.
- Ask,
- To which group of animals they belong to?
- Ask students what these four reptiles have in common and mark their responses on the black board.
- Spark the conversation by asking the following questions: Do you have any idea
- How do these animals give birth?
- How do they stay warm?
- How do they move?
- Label the list of common characteristics with the title "Reptile characteristics."

Reptile characteristics
Have back bone **Have a pair of lungs** **Scales on their bodies** **Lay eggs** **Cold blooded their body temperature changes with the weather.**

Explanation

- Review your list with the class.
- Explain these features common to all reptiles.
- Explain that animals are only classified as reptiles if they
- Have these features.
- **Reptiles have backbone, have scales on their bodies, are cold-blooded and lay eggs.**
- **Explain the term cold-blooded, their body temperature changes with the changing climatic conditions (cold-blooded).**
- **This is why in winter and cold months most reptiles go underground such as snakes and lizards.**

- Ask the students to give examples of the reptiles they know and have seen. List the examples on the board e.g. snake, lizards etc

Activity: Worksheet

- Distribute the worksheet and explain the task.

Follow-up discussion

- Invite the students to share one characteristic of the reptiles.
- As they tell refer to the chart on board and explain it for the students.

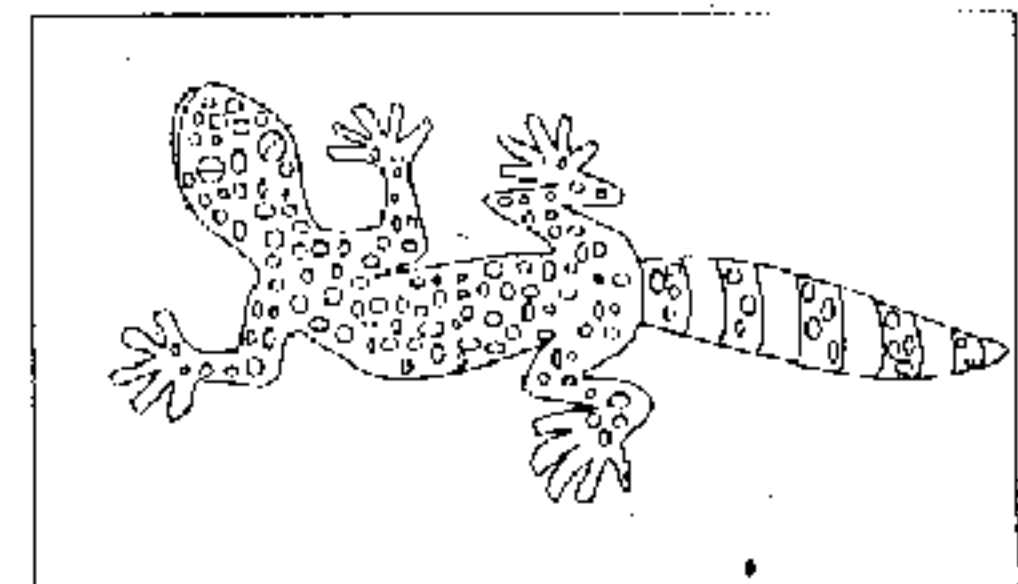
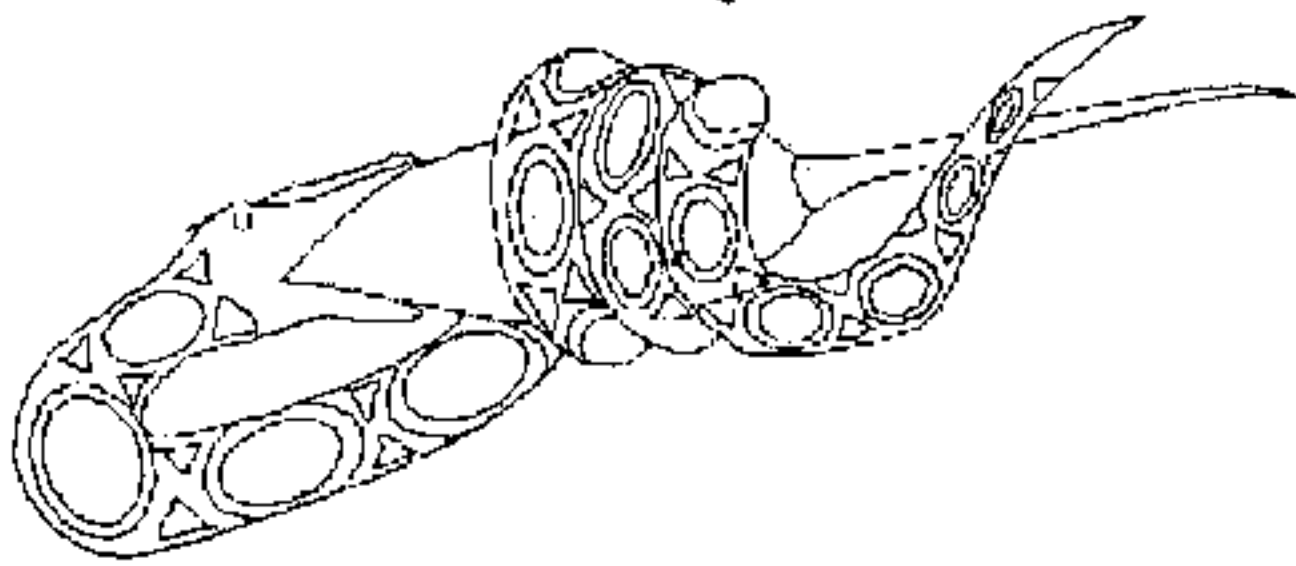
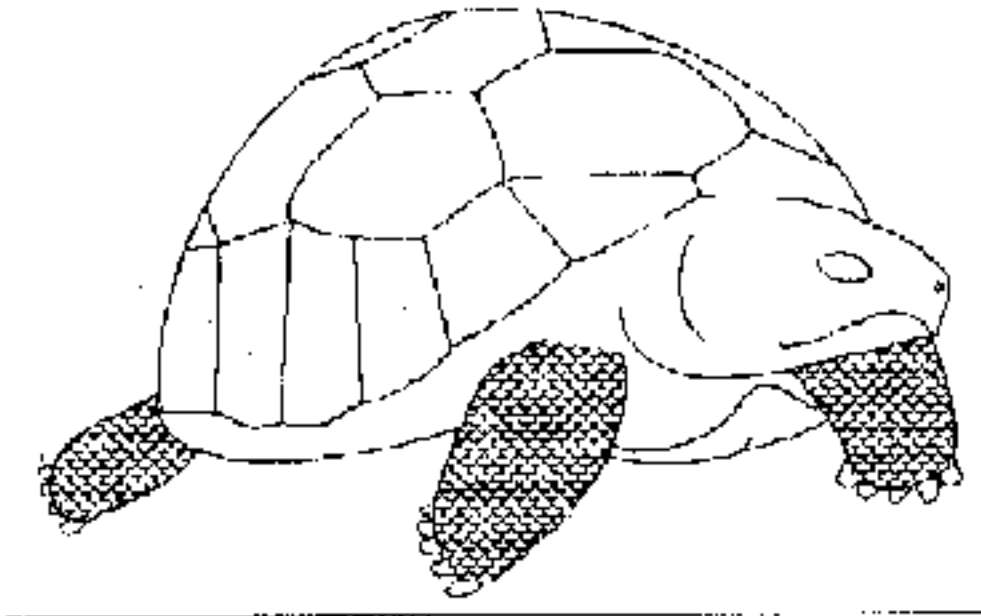
Wrap-up Q/A

How would you know if an animal is a reptile?

H.W revise the work done in class.

Level: 2 Term: 1
Week: 4 Day: 1

Reptiles
Worksheet

Name these animals, how do you know they are reptiles? Write down their main features?

Level 2		Life Systems
Term 1	Lesson Plan	Animals
Week 4		
Day 2		

Topic: Growth and changes in animals
Objective: To recognize different features of reptiles.
Activity: Making a reptile book
Materials: Pictures or stickers of reptiles, A_4 size chart paper pieces as 1 per student, color pencils or crayons, punch to make holes, thin ribbon or string 1 meter to tie up the books, scissors, glue.
Procedure:
- Divide the class into groups..
- Distribute the papers and stationery to each group.
- Give instruction.
- Each group to work on reptiles of their own choice (ensure all groups of reptiles are covered).
- Tell them, each child will draw and color reptiles on the page.
- They can stick pictures also if they have.
- Then,
- Ask them to write down some information about the reptiles such as,
- What are the main features of reptiles?
- What do they eat?
- Circulate in the class while students are working, giving them clues and guiding them.
- Do not give them any sample. Let them be creative and draw what they think and imagine.
- After they complete, bind the pages into a booklet.
- You can bind more than one booklet also if there is larger number of children.
- Put a title at the top.
- Ensure that each child had his or her name on the page.

Wrap up
- After the booklet is ready.
- Show it page by page to the whole class.
- Call the name of each child and appreciate his or her work by giving nice comments.
- Display the booklets in class.

Level 2		Life Systems
Term 1	Lesson Plan	Animals
Week 4		
Day 3		

Topic: Growth and changes in animals
Objective: Students will be able to identify main features of the insects
Activity: Observing an insect, worksheet
Materials

1. Clean glass jar
2. Cheesecloth
3. Rubber band
4. Grass and twigs
5. Scissors
6. Soil
7. Magnifying glass
8. Insect

Preparation:
Prepare one jar for each group. Take help from the students one day before the class.

1. Cut a square piece from the cheesecloth to make a top for your jar.
2. Use your trowel to get a chunk of earth with some grass on it.
3. Put the soil and grass in your jar. Add a twig or two.
4. Catch an insect butterfly, cockroach, ant etc. Put it in your jar. Put the cheesecloth on the top of your jar. Secure it with a rubber band.

Procedure
Warm-up Q/A

- Ask,
- About how many groups of animals have you learnt about up till now?
- Listen to the student responses and write the groups on the board.
- Show them a picture of a butterfly and ask to which group of animals it belongs?
- (Their responses might include small animals, insects etc)
- Can you name few insects?
- There are some insects you are really scared of. You shout and run as they appear so that they do not sting you.(Yes Wasps and Bees are insects too)

- Now we will discuss about the characteristics of this group of animals.
- Inform the students that today they are going to observe an insect.

Activity:

Divide the students into groups.

- Explain to the children that you have created this as a classroom home for this insect.
- Ask them to,
- Use your magnifying glass to study and check out the insect's body parts.
- Ask questions to guide them while they are observing. Keep explaining different characteristics also.
- Ask,
- Can you see three basic body parts?
- These are called the **head, the thorax, and the abdomen.**
- Are these body parts soft or hard? The insect's outer body is hard.
- We call this tough, almost shell-like body an **outer-skeleton**. It protects the insides of the insect's body.
- Look at the insect's **head**. What do you see? It should have **a mouth, eyes, and a pair of antennae.**
- Check out the **thorax.** What do you see? There are three pairs of legs and two pairs of wings.
- What is so different about the back legs from the other legs? These big, thick legs are used for jumping.
- Look at the **two pairs of wings.** Are they the same?
- Which pair is long and thin and very stiff looking?
- Carefully look at the **abdomen**. Do you see a little opening on each segment?

Follow up discussion:

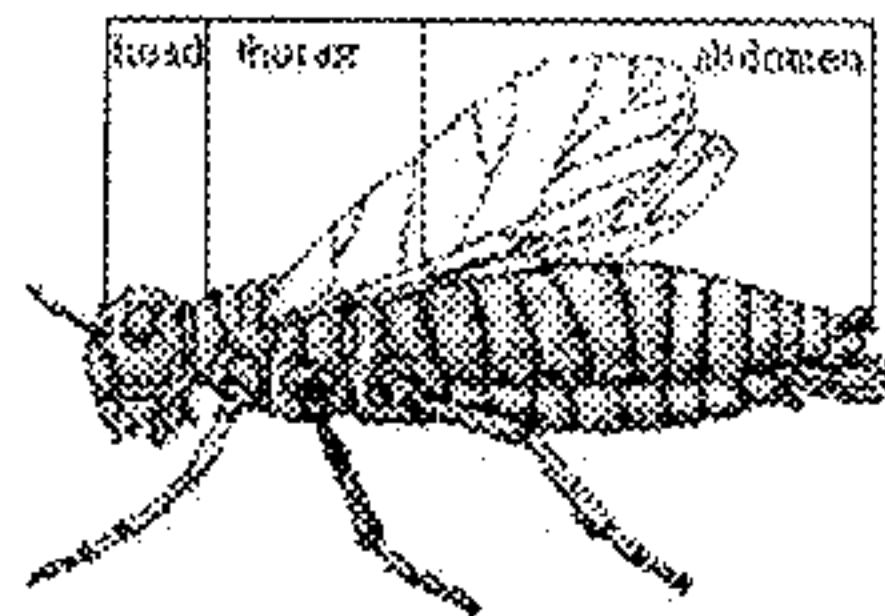
- Ask the students,

What did you learn from this activity?

- How many body parts it has?
- Are these body parts soft or hard?
- What do you see at the insect's head?
- How many wings it has?
- How many legs it has?
- What do you see at the abdomen?
- How does it move?

Explanation/Discussion

You see insects are everywhere! **Butterflies, bees, ants, cockroaches, and beetles are all insects.** But all small creatures are not insects.

Draw this diagram on the board and explain (If you can not draw prepare cut out or get a prepared chart)

Explain,

Insects have special features.

- Adult insects have three parts in their bodies - head, thorax, and abdomen.
- The head holds insects' brain and mouth, as well as their sense organs such as eyes and antennae.
- Wings and legs are attached to the thorax segment.
- The abdomen segment contains insects' heart, digestive system, and reproductive organs. In addition to three body segments, adult insects also have three pairs of jointed legs, one pair of antennae, and, usually, two pairs of wings.
- A hard, external skeleton covers all parts of an insect's body for the purpose of protection. This external skeleton is called "exoskeleton

Wrap-up Q/A

What are the main features of insects?

Level 2		Life Systems
Term 1	Lesson Plan	Animals
Week 4		
Day 4		

Topic: growth and changes in animals
Objective: Students will be able to identify main features of the insects
Activity: Written work
Materials: Worksheet

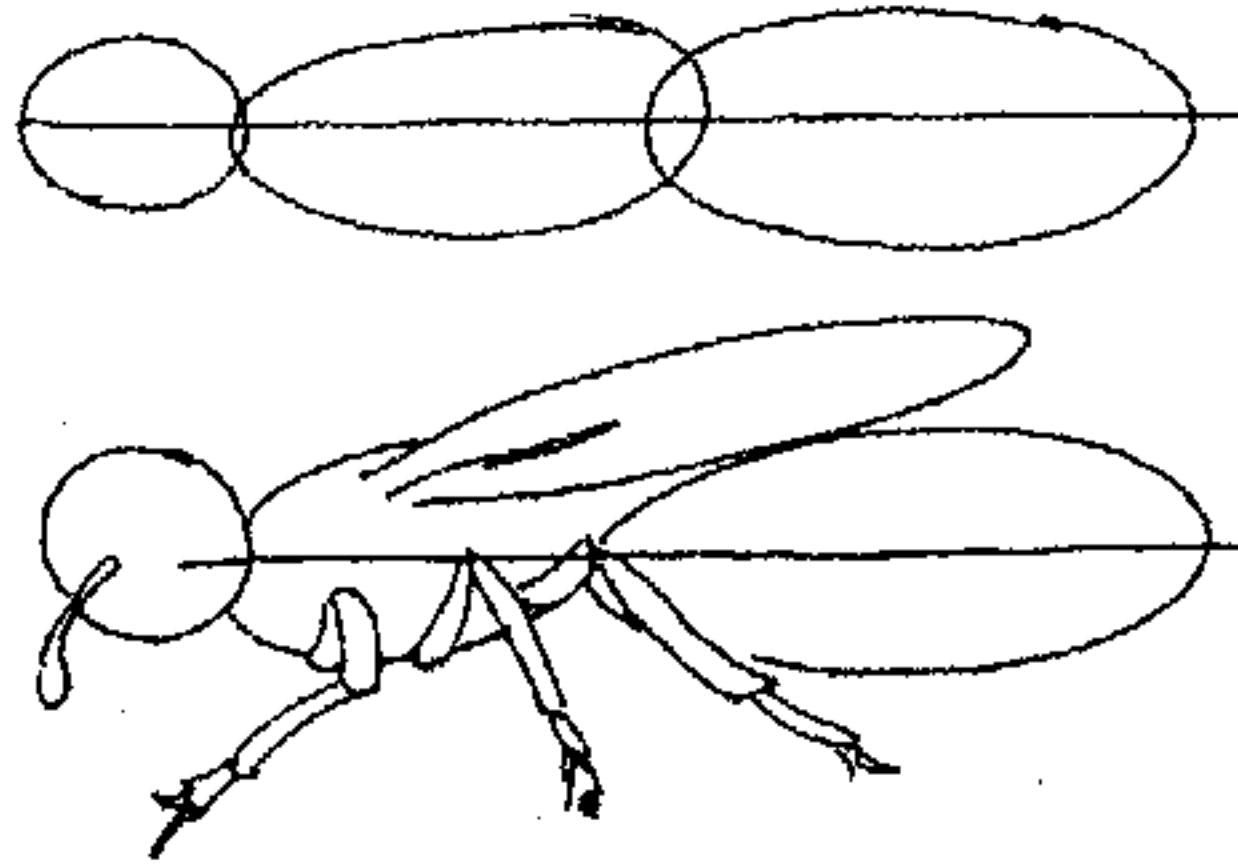
Procedure
Warm-up/A

- Revise the concept introduced in the last lesson.
- Ask, What are the main features of insects?
- Distribute the worksheet and explain the task.

H.W Revise the work done in class.

Level: 2 Term: 1
Week: 4 Day: 4

Insects Worksheet

Q 1) Look at the pictures and draw your own insect in the given space. Label its body parts by choosing words from the list.

List: head, Thorax, abdomen, wings, eyes, antennae, legs

Q 2) How many body parts an insect has?

____

Q 3) How many pair of legs an insect has?

____

Q 4) How many pairs of wings an insect has?

____

Q 5) What is an insect's skeleton called?

____

Q 6) Encircle the ones, which are insects?

Butterfly, earthworm, beetle, cockroach, honey bee, spider,

Level 2		Life Systems
Term 1	Assessment	Animals
Week 4		
Day 5		

Task:

Q 1) what are the main features of reptiles? Draw and color a reptile.
Q 2) Draw and color an insect.
Q 3) How many body parts an insect has?
Q 4) How many pair of legs an insect has?
Q 5) How many pairs of wings an insect has?
Q 6) What is an insect's skeleton called?

Science Lesson Plans

Level 2
Term 1
Week 5

Week	Curriculum Strand	Topic	Day	Specific Objectives	Home work
4	Life Systems	Growth and Changes in Animals	1	To understand animal adaptation to cold weather	
4		do	2	To understand migration of animals for survival	H.W
4		do	3	To understand hibernation and dormancy of animals for survival in winter	H.W
4			4	To make comparison how different animals eat their food	H.W
4		do	5	Assessment	

(1-4)

Level 2		Life Systems
Term 1	Lesson Plan	Animals
Week 5		
Day 1		

Topic: Growth and changes in animals
Objective: Students will be able to understand animal adaptation to cold weather.
Activity: discussion, written work
Materials: copy of worksheet for each student, pencils, and chalk.
Procedure
Warm-up Q/A

- Ask the students,
- How do you protect yourselves from cold in winter?
- From where do you get your food or the things that you eat and use?
- Listen to their responses.
- Then tell,
- When the weather gets colder, people keep their houses warm and wear heavy coats outside. Our food comes from the grocery store.
- Then, ask,
- But what happens to the animals?
- Do you have any idea how animals protect themselves from cold?
- Or
- What do animals do in winter? From where do they get their food?
- Listen to the student responses. List their ideas on board.
- Then write the words '**ADAPT**' on the board.
- Ask, have you ever heard of these words.
- Adapt means; to change for new use. To adapt animals make changes in their behavior and bodies for the new season.
- Then explain and discuss.

Explanation/Discussion
Draw this chart on the board.

How do animals adapt in winter.

Keeping warm	Finding food
• **Some animals grow new, thicker fur in the autumn.** • **Birds grow thicker feathers.** • **Some animals may find shelter in holes in trees or logs, under rocks or leaves, or underground holes.**	• **Some animals gather extra food autumn and store it to eat later.** • **Other animals eat different kinds of food as the seasons change.**

- Refer to your points in the list and explain in detail.

- Some animals stay active in the winter. During winter they face two main problems,
- **'How to keep warm and where and how to find food'**
- They adapt to the changing weather by making changes in their behavior or bodies. Just like we do by wearing warm clothes and keeping our houses warm.
- To keep warm, these **animals may grow new, thicker fur in the autumn.**
- **Birds grow thicker feathers.**
- Some animals may find winter shelter in holes in trees or logs, under rocks or leaves, or underground.
- Some mice even build tunnels through the snow.
- To try to stay warm, animals like squirrels and mice may huddle close together also.

- Food is hard to find in the winter.
- Some animals, like **squirrels, mice and beavers**, gather extra food in the fall and store it to eat later.
- Some, like rabbits and deer, spend winter looking for moss, twigs, bark and leaves to eat. Other animals eat different kinds of food as the seasons change.
- Such as the **red fox** eats fruit and insects in the spring, summer and fall. In the winter, it cannot find these things, so instead it eats small rodents.

Activity

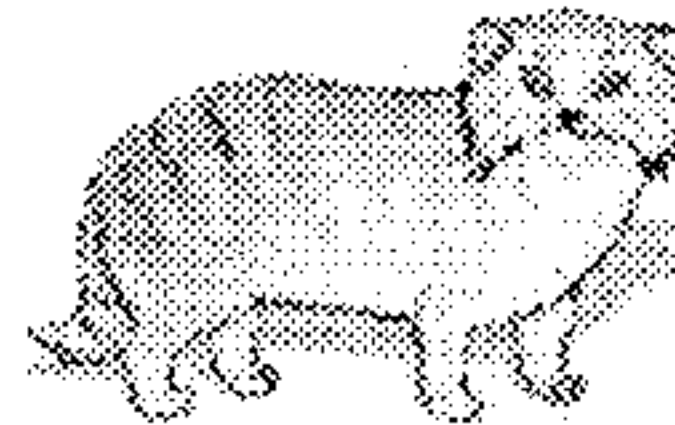
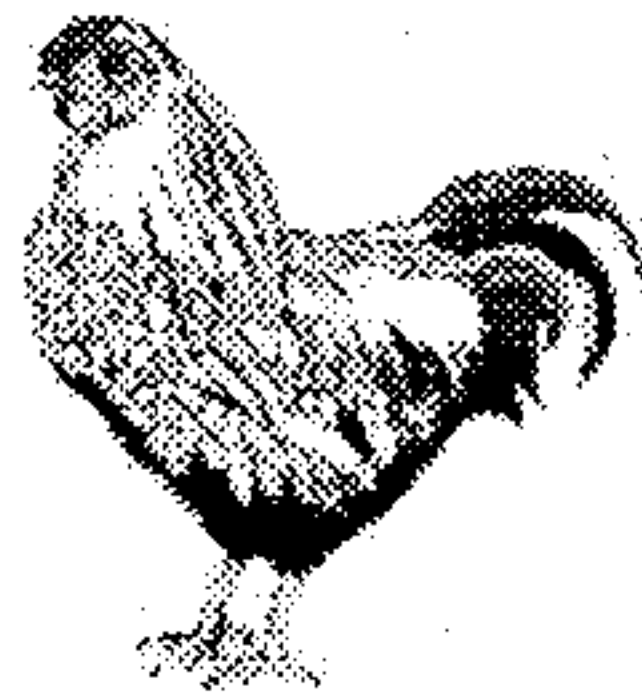
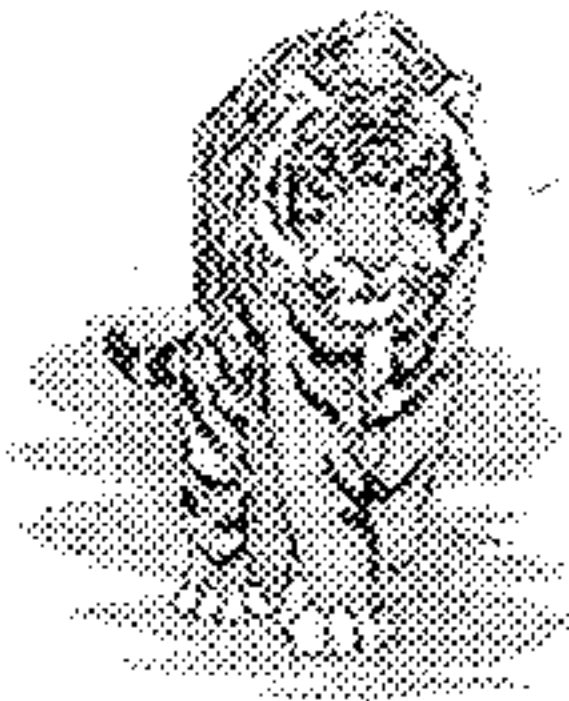
- Distribute the work sheet and explain the task.

Wrap-up Q/A

How do some animals adapt in winter?
What does adapt mean?

Level: 2 Term: 1
Week: 5 Day: 1

Adaptation in winter
Worksheet

Q 1)Name these animals and write how will they keep themselves warm in winter.

Word bank: grow thicker feathers, grow thicker fur.

Q 2)What are the biggest problems for animals in winter?

____

____

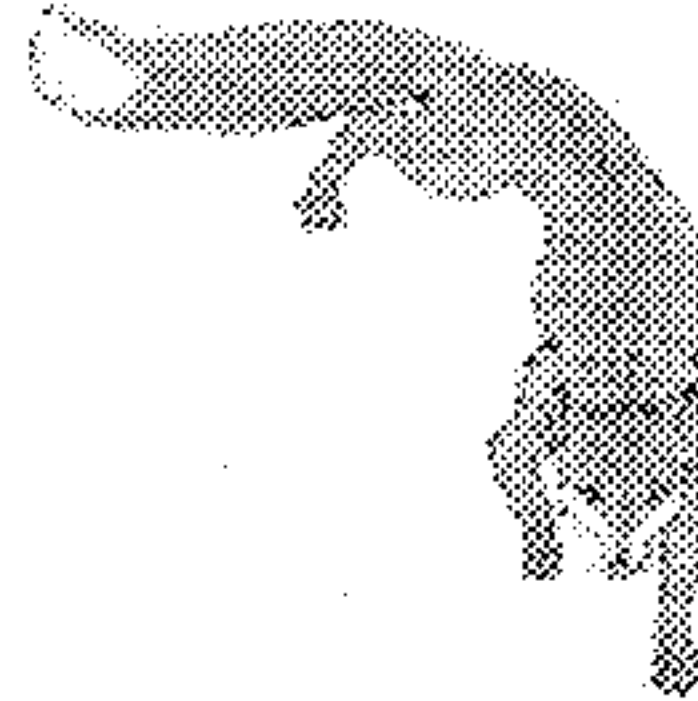
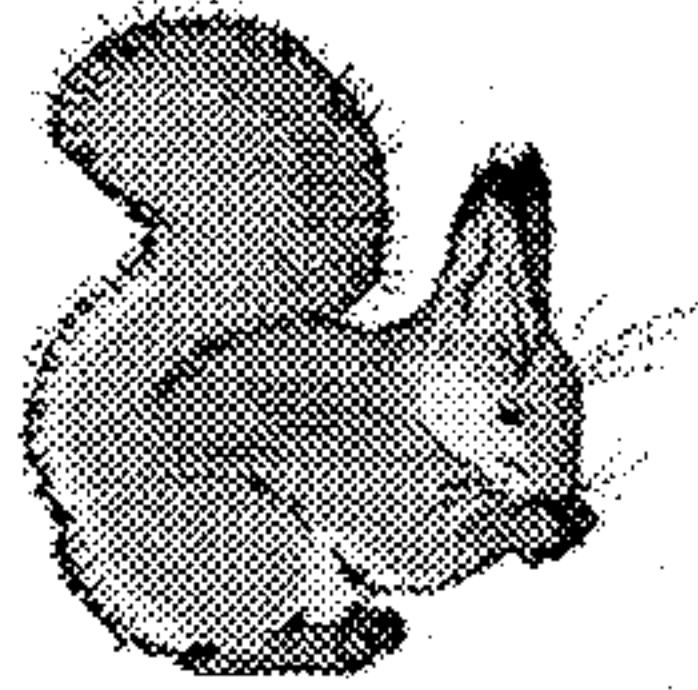
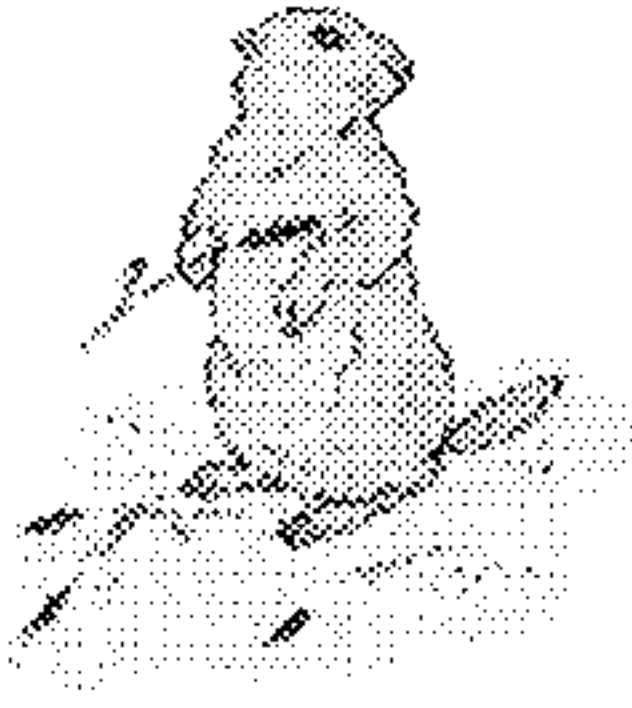
Q 3) Name these animals and write how would these animals get food in winter?

____

____

____

____

____

Word bank: store food, change the food it eats.

Q 4) In which season animals store food?

____

____

Q 5) Complete the sentence.
To adapt animals ______________________________.

a) make changes in their behavior and bodies for new season.

b) get something new.

Q 6) Find the meanings of these words in dictionary.
Autumn, behavior, season.

Level 2		Life Systems
Term 1	Lesson Plan	Animals
Week 5		
Day 2		

Topic: Growth and changes in animals
Objective: Students will be able to understand how some animals survive the winter by migration.
Activity: discussion, written work
Materials: chalk, pencils, colors, copy of worksheet for each child
Procedure
Warm-up Q/A

- Remind the students about yesterdays lesson and ask,
- What are the biggest problems for animals in winter?
- How do animals survive in winter?
- How do they adapt or change their behavior and bodies?
- Then tell, not all animals can adapt like this. Some spend their winter in a different way.
- Write the word '**MIGRATE**' on board and ask,
- Do you have any idea what it means?
- Listen to their responses and then explain and discuss.

Discussion/Explanation
Explain,
Animals do many different, amazing things to get through the winter.
Some of them **"migrate." This means they travel to other places where the weather is warmer or they can find food.**

- Many birds migrate in the autumn.
- Because the trip can be dangerous, usually birds travel in large flocks.
- For example, geese fly in noisy, "V"-shaped groups.
- How do they know when it is time to leave for the winter? Scientists are still studying this. They see changes in the amount of daylight and the weather.
- Birds can fly very long distances.
- Most birds migrate shorter distances.
- **Other animals migrate, too**. There are a few mammals, like some bats, caribou and elk, and whales that travel in search of food each winter.
- Many fish migrate. They may swim south, or move into deeper, warmer water.
- Insects also migrate. Some butterflies and moths fly very long distances. For example, Monarch butterflies spend the summer in Canada and the Northern U.S. They migrate as far south as Mexico for the winter.
- Earthworms also move down, some as far as six feet below the surface.

Activity: written work

- Distribute the worksheet and explain the task.

Wrap-up Q/A

- What does migration mean?
- Why do animals migrate?

H.W revise the work done in class

Level: 2 Term: 1
Week: 5 Day: 2

Migration
Worksheet

Read this paragraph and answer the questions?

Animals do many different, amazing things to get through the winter. Some of them "migrate." This means they travel to other places where the weather is warmer or they can find food.
Birds migrate in autumn.
They travel in large flocks.
Birds know it is winter by feeling changes in amount of daylight and the weather.
Other than birds some kinds of fish, butterflies also migrate.

Why do animals migrate?
- For food
- For warm weather
- For meeting other animals

In which season do birds migrate?
- Autumn
- Summer
- Spring

How do most birds travel?
- In flocks
- Alone

How do birds know it is time for winter?
- By feeling changes in the amount of daylight and the weather.
- Shortage of water

Which of these animals migrate?
- Birds
- Butterfly
- Lion
- Elephants
- Fish

Migration means
- Travel to other places
- Staying at one place

Level 2		Life Systems
Term 1	Lesson Plan	Animals
Week 5		
Day 3		

Topic: Growth and changes in animals
Objective: Students will be able to understand hibernation and dormancy.
Activity: discussion, written work
Materials: pencils, colors, chalk, copy of the worksheet for each child
Procedure
Warm-up Q/A

- Remind the students about yesterdays lesson and ask,
- What are the biggest problems for animals in winter?
- How do animals survive in winter?
- What does migration means?
- Do all animals migrate?
- Which animals migrate?
- Do you have any idea what do other animals do?
- Then tell, not all animals migrate. Some spend their winter in a different way.
- Write the words '**HIBERNATION**' and '**DORMANCY**' on board and ask,
- Do you have any idea what it means?
- Listen to their responses and then explain and discuss.

Explanation/Discussion
Draw this chart on the board.

Hibernation	Dormancy
A special very deep sleep during winter months. Some Warm-blooded animals hibernate. In autumn animals eat a lot and store fat in their bodies for energy. Bears, skunks, chipmunks, and some bats hibernate.	Animals take shelter in holes burrows or under water and stay their inactive. Cold-blooded animals become dormant or inactive in winter. Such as reptiles, insects fish .

Explain,
Hibernation

- Some animals "hibernate" for part or all of the winter.
- This is a special, very deep sleep.
- The animal's body temperature drops, and its heartbeat and breathing slow down. It uses very little energy.
- In the autumn, these animals get ready for winter by eating extra food and storing it as body fat.
- They use this fat for energy while hibernating.
- Some also store food like nuts or acorns to eat later in the winter. Bears, skunks, chipmunks, dormouse and some bats hibernate.

- Explain,

Dormancy

- Cold-blooded animals like fish, frogs, snakes and turtles have no way to keep warm during the winter.
- Snakes and many other reptiles find shelter in holes or burrows, and spend the winter inactive, or dormant.
- This is why you do not see insects and reptiles around in winter. They come out or become active in spring again.
- This is similar to hibernation.
- Water makes a good shelter for many animals.
- When the weather gets cold, they move to the bottom of lakes and ponds. There, frogs, turtles and many fish hide under rocks, logs or fallen leaves. They may even bury themselves in the mud. They become dormant.

- Insects look for winter shelter in holes in the ground, under the bark of trees, deep inside rotting logs or in any small crack they can find.

Activity: written work

Distribute the worksheet and explain the task.

Wrap-up Q/A

- What is hibernation?
- Which animals hibernate?
- What is dormancy?
- Which animals become dormant?

Level: 2 Term: 1
Week: 5 Day: 3

Hibernation and Dormancy
Worksheet

Which of these hibernate and become dormant during winter.

Bear, chipmunks, snakes, lizards, turtles, fish, dormouse, bats, frogs.

Hibernate	Dormant

Where do animals take shelter when they hibernate and become dormant?

____

____

____

____

From where do animals get energy during hibernation?

____

____

What is hibernation? What is dormancy?

____

____

Level 2		Life Systems
Term 1	Lesson Plan	Animals
Week 5		
Day 4		

Topic: Growth and changes in animals
Objective: To make comparison how different animals eat their food.
Activity: Discussion, written work
Materials: Worksheet, chalk, pencils
Procedure
Warm-up Q/A

- Remind the students about last years lesson in which they learnt about what kinds of foods do animals eat?
- Ask, Do you remember what kinds of food do animals eat?
- Listen to their responses and then tell,
- Some animals eat plants.
- Some animals eat meat or other animals.
- Some animals eat plants as well as other animals.
- Ask the students to give some examples of animals and list their responses on the black board.
- For example,

Animals	Food
Goat	Plants
Cow	Plants
Lion	Meat
Fox	Meat
Bear	Meat and plants
Crow	Meat and plants

- Then ask how do these animals eat their food?

Discussion/Explanation
Then draw this chart on the board and explain.

Animals	Food	How animals eat
Cow	Plants	Have flat teeth, chew the plants
Goat	Plants	
Tiger	Meat/other animals	Tear and chew the flesh. Front teeth are pointed and sharp for tearing flesh. Back teeth are flat for chewing.
Lion	Meat/other animals	
Snakes	Other small animals, eggs	Do not chew their food, swallow the food whole.
Frogs and Lizards	Insects	Have long sticky tongue to

		catch small insects; do not chew their food.
Elephant	Plants, fruits	Use trunk to suck water and break leaves and branches. Use trunk to put food in mouth.
Squirrel and Rats	Seeds, fruits and nuts	They use their teeth to gnaw
Birds	Seeds, fruits, nuts and other small animals	Do not have teeth. Use beaks to break and eat food.
Fish	Seaweeds and other fish	Some have teeth some don't. Usually gulp the food.

Activity: Written work
Distribute the worksheet and explain the task.

Wrap-up Q/A
How do animals eat?

Level: 2 Term: 1
Week: 5 Day: 4

How do animals eat?
Worksheet

Q 1) Match the animal with food.

Cow	**Meat**
Lion	**Plants**
Bear	**Seeds and nuts**
Goat	**Seeds and insects**
Sparrow	**Plants**
Squirrel	**Meat and plants**

Q 2) How do these animals eat?

Snake

____

Lion

____

Goat

____

Frog

____

Elephant

____

Fish

____

Birds

____

Level 2		Life Systems
Term 1	Assessment	Animals
Week 3		
Day 5		

Note: Use the worksheets with lessons for assessment.

Science Lesson Plans

Level 2
Term 1
Week 6

Week	Curriculum Strand	Topic	Day	Specific Objectives	Home work
6	Life Systems	Growth and Changes in Animals	1	To explore the shapes of bird beaks in relation to their food source.	H.W
6		do	2	To explore the shapes of bird beaks in relation to their food source.	
6		do	3	To make comparison how different animals move	H.W
6			4	To understand why do birds make nests	
6			5	To understand how do birds make nests	
6		do	6	Assessment	

Level 2		Life Systems
Term 1	Lesson Plan	Animals
Week 6		
Day 1		

Topic: growth and changes in animals
Objective: To explore the shapes of birds' beak in relation to their food source
Activity: written work
Materials: chalk, worksheet, and pictures of different birds.
Procedure:
Warm-up Q/A

- Ask the students to share with the class what they know about birds.
- What makes a bird a bird?
- What do birds need to live?
- What kinds of food do they think birds eat? (Insects, seeds, berries, and meat are among the most common.)
- Where do birds live?
- Can you name some birds that you see or hear near your home or school?
- Show the pictures of different birds and ask,
- Why do birds have different shaped beaks?
- Listen to their responses.
- Student responses might include birds have many different kinds of beaks, depending on what they eat and where their food source is.
- Ask, can you name some birds that you know? (Such as hen, parrot, pigeon, crow etc).
- What kind of beaks they have?
- What kind of food they eat?

Explanation/brainstorming

- Birds have many different kinds of beaks, depending on what they eat and where their food source is.
- For instance, birds may find their food in water, mud, flowers, seeds, or in wood.
- A hummingbird has a long, thin bill that allows it to sip the nectar from inside flowers. The different shapes of beaks allow easier access to these various food supplies.

- Draw this chart on the board and ask few examples of birds they know about and their beaks and food they eat e.g.

Bird	**Food**	**Type of Beak**
Hen	Seeds, insects	Short and straight
Parrot	Fruits, seeds	Short and curved
Crow	Seeds, meat, insects	Short and straight

Keep building the list and see how many they can think of.

Activity:

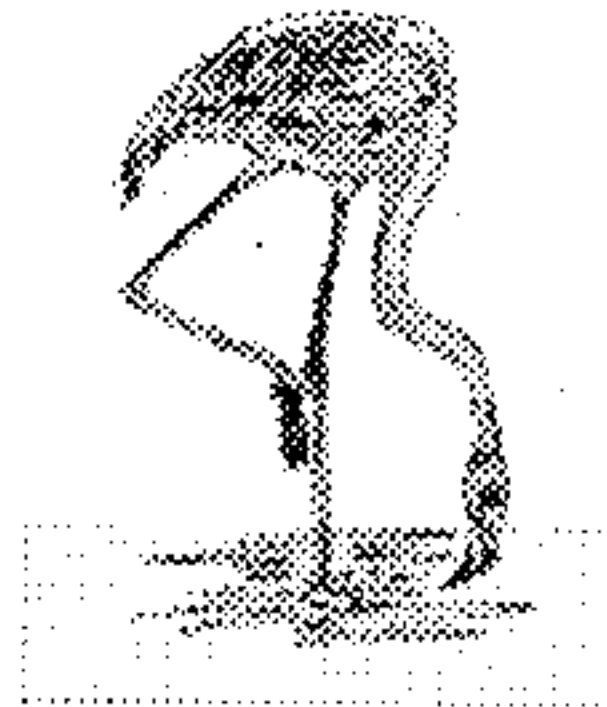
- A worksheet with pictures of birds and their beaks.
- Distribute the worksheet and explain the task.

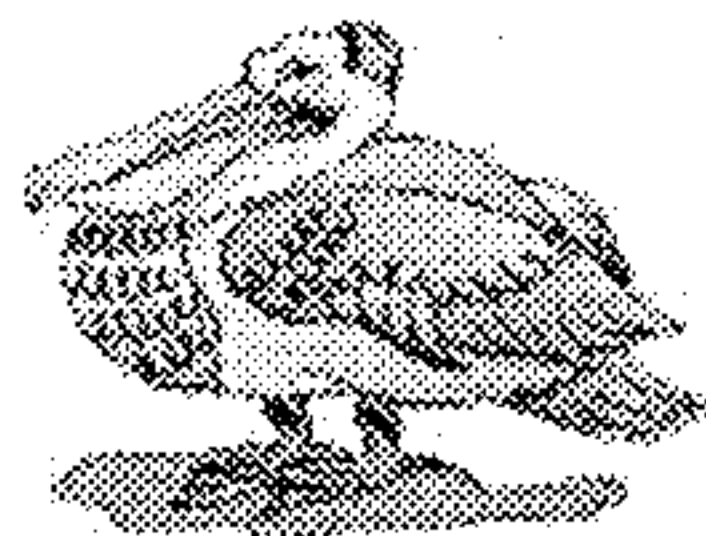
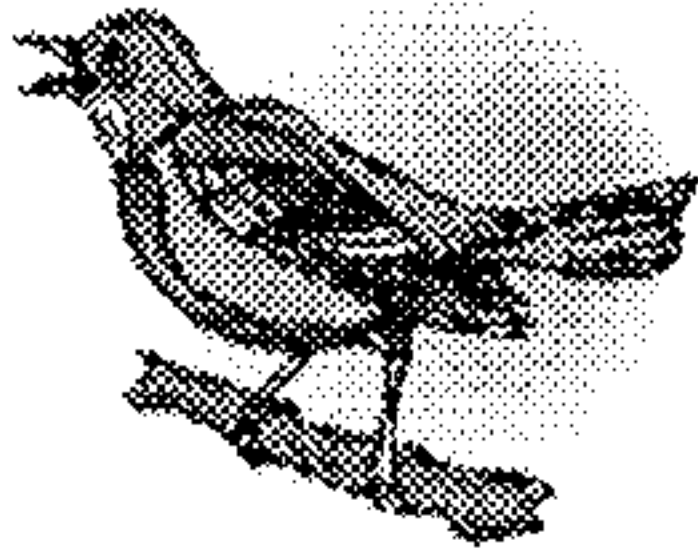
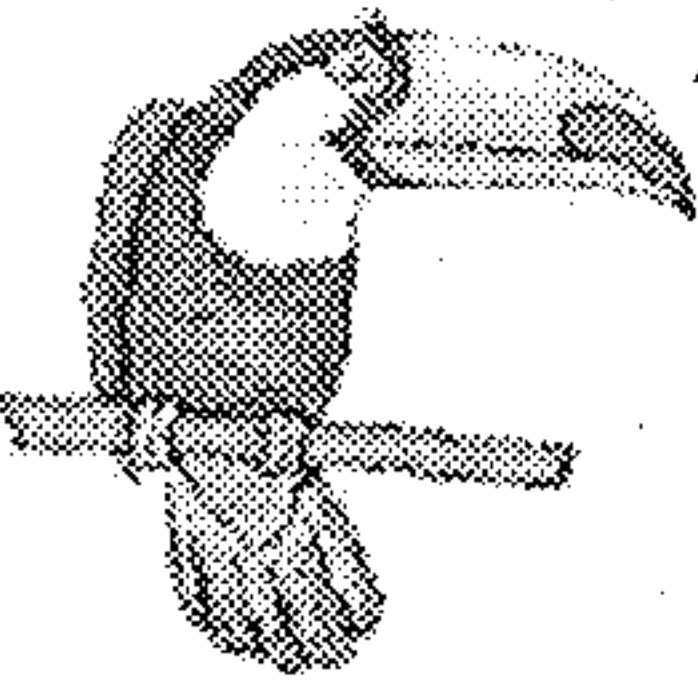
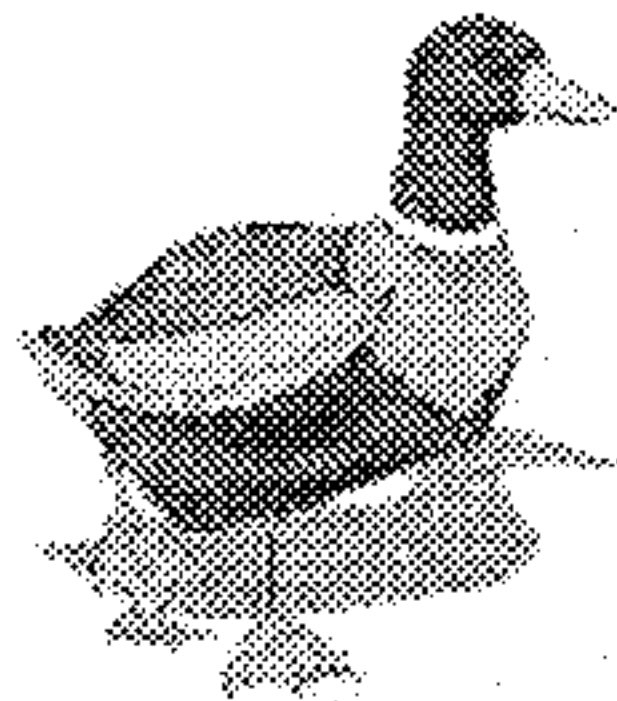
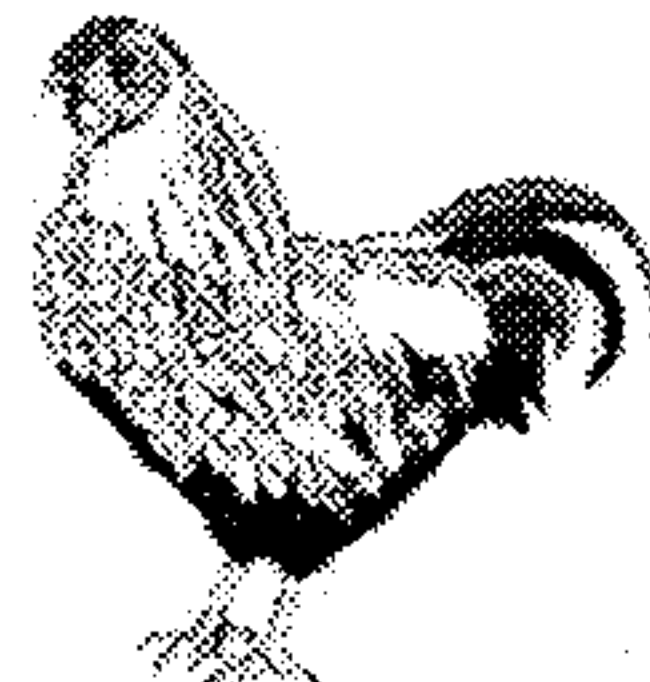
Wrap-up Q/A

Why do birds have different types of beaks?

Level: 2 Term: 1
Week: 6 Day: 1

Bird beaks
Worksheet

How do these birds use their beaks? Use words from the list.

Kiwi Flamingo Woodpecker

Puffin Pelican Hummingbird

<u>List</u>

For catching insects, For poking in flowers, For crushing seeds , For catching fish

For breaking wood, For tearing meat.

Level 2	3	Life Systems
Term 1	Lesson Plan	Animals
Week 6		
Day 2		

Topic: growth and changes in animals
Objective: To explore the shapes of birds' beak in relation to their food source
Activity: 1 Demonstration/ discussion
Activity: 2 written work
Materials: chart with pictures of various birds with corresponding and food source beaks, such as humming bird, sparrow, heron, duck, wood pecker.
Food: colored water in a long narrow container, sunflower seeds, Styrofoam cubes, rice, tea leaves, Styrofoam
Shallow pans / plate;
Procedure
Warm-up Q/A

- Remind the students about yesterday's lesson and ask,
- Why do birds have different kinds of beaks?
- Ask them to give few examples of birds?
- Listen to their responses.
- Then tell that now we will experiment with different beaks to see how do they help the birds to eat?

Activity: 1
In front of the class, arrange:
1. A tall, thin vase filled with colored water.
2. Sunflower seeds spread throughout a pan.
3.A dish of water with Styrofoam cubes floating in shallow water.
4. A dish of water with loose-leaf tea or herbs.
5.Rice grains tucked into the bark of a log (or Styrofoam)
Tell students that each of these items represents a type of food eaten by various birds.

1. Nectar (colored water) will need to be sucked out. Hummingbird
3. Seeds (sunflower seeds) need to be cracked open. Sparrows
4. Fish (Styrofoam pieces) will probably need to be scooped out of the water. Heron
5. Fine bits of vegetation (tea or herbs) will need to be carefully scooped out of water. Ducks, Swans
7. Small insects (rice) will need to be picked and pried out of small crevices. Woodpeckers

Show them the pictures of different beaks displayed on a chart and ask which shape of beak and bird they think would best suit these food sources.

Explanation:

- Explain, these birds have many different kinds of beaks, depending on what they eat and where their food source is.

- A hummingbird has a long, thin bill that allows it to sip the nectar from inside flowers.
- Sparrow has a short beak as it has to crack open the seeds.
- Heron has a long beak as it has to scoop out fish from water.
- Duck has a wide beak as it has to scoop out fine bits of vegetation from water.
- A woodpecker has a long straight beak as it has to pick insects from wood.
- The different shapes of beaks allow easier access to these various food supplies.

Activity: 2

- Distribute the worksheet and explain the task

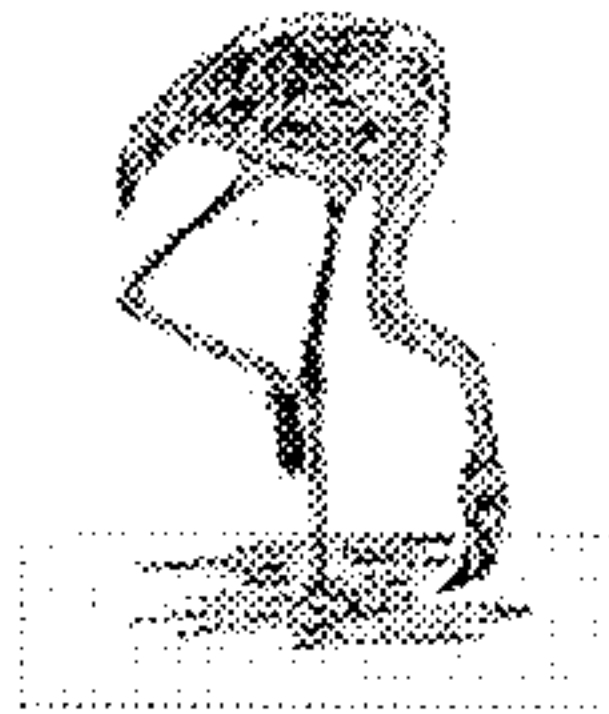
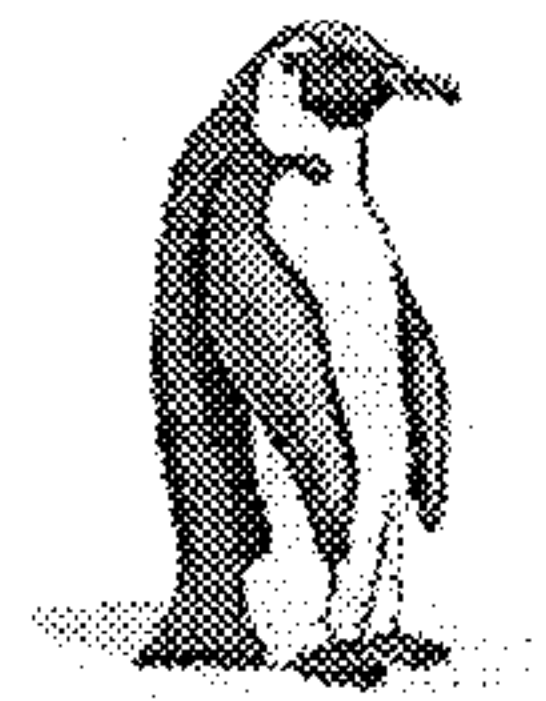
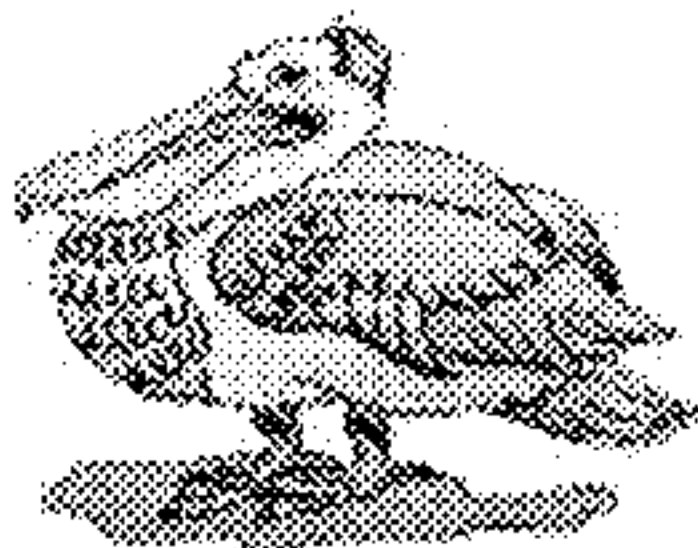
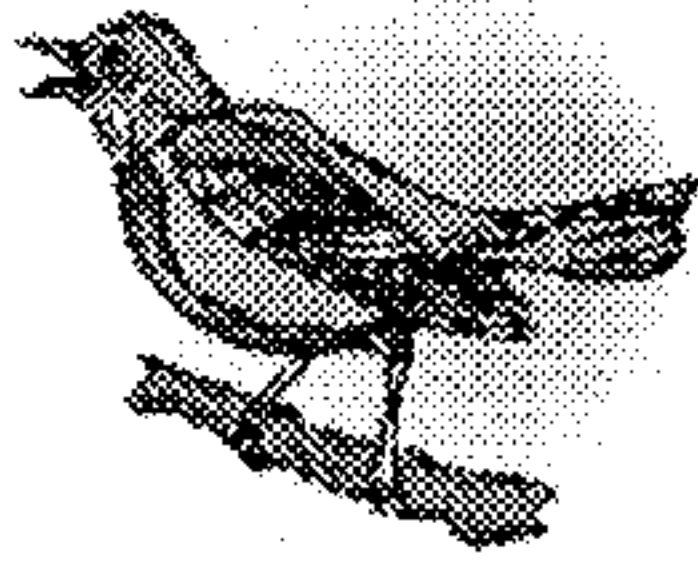
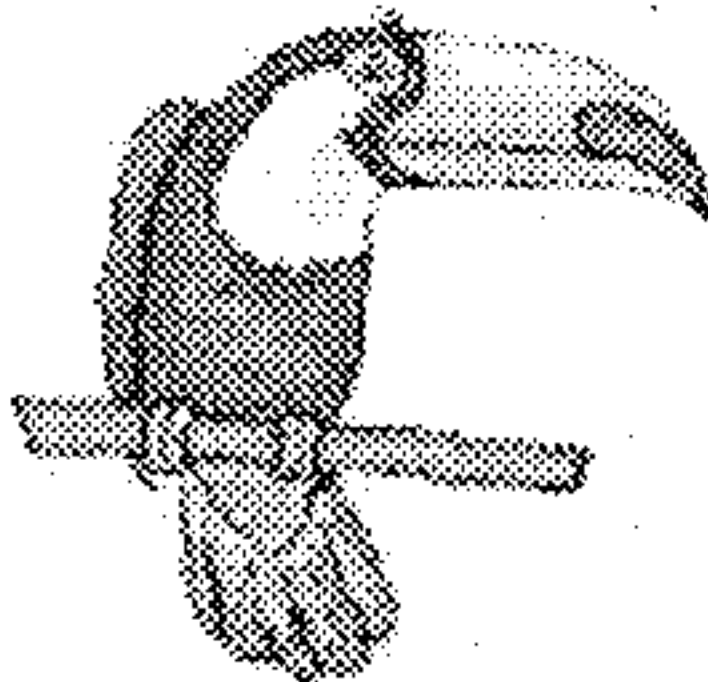
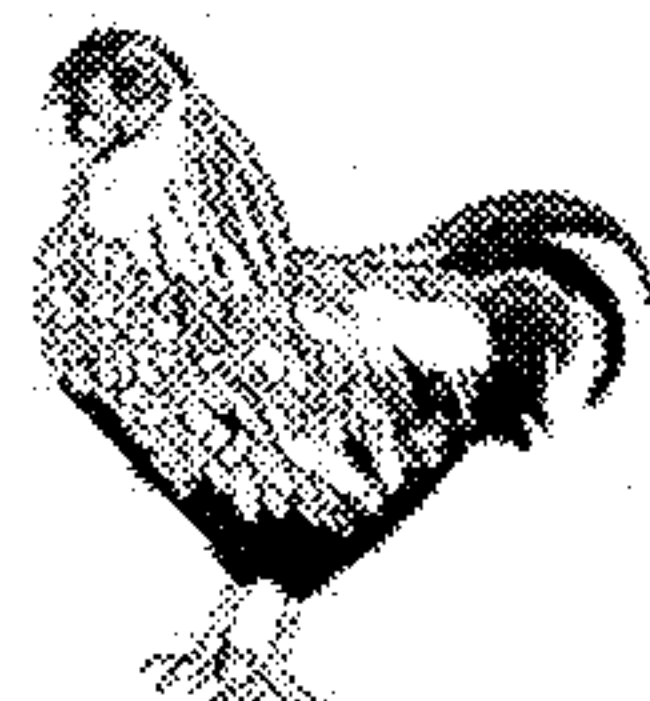
Wrap-up Q/A

- Why do birds have different types of beaks?

H.W Revise the work done in class

Level: 2 Term: 1
Week: 6 Day: 2

Bird beaks
Worksheet

These birds have very different beaks to pick up their food. Write the food might each bird eat?

<u>**List**</u>

insects, nectar of flowers, seeds , fish, small animals, fruits, plants in water.

Level 2		Life Systems
Term 1	Lesson Plan	Animals
Week 6		
Day 3		

Topic: Growth and changes in animals
Objective: To make comparison how different animals move.
Activity: Discussion, written work
Materials: Worksheet, chalk, pencils
Procedure
Warm-up Q/A

- Ask, What makes us move? (energy)
- Then ask why do we move?
- Listen to the student responses and then tell.
- We move to full fill or satisfy our needs and protect our selves from danger.
- Why do you think animals move?
- They also move to satisfy their needs. They move to find their food and protect themselves from danger.
- Ask, how do animals move?
- Then ask, how do we move?
- We walk and run but animals move in different ways.
- **Discussion/Explanation**
- Draw this chart on the board.
- Ask the students how different animals move. Then discuss by giving them clues and build up the list for example,

Animals	Movement
Birds	**Fly**
Horse	**Run, walk**
Frog	**Hop, Jumps**
Fish	**Swim**
Snake	**Slither**
Tiger	**Run, Jump**
Goat	**Run, walk**
Cat	**Walk, run**
Butterfly	**Fly**
Insects	**Crawl, fly**

- Explain, animals move in the environment in different ways, refer to your list on the board.
- They move to find food. Such as birds fly in search of food.
- They move to protect themselves from danger also.

Activity: written work

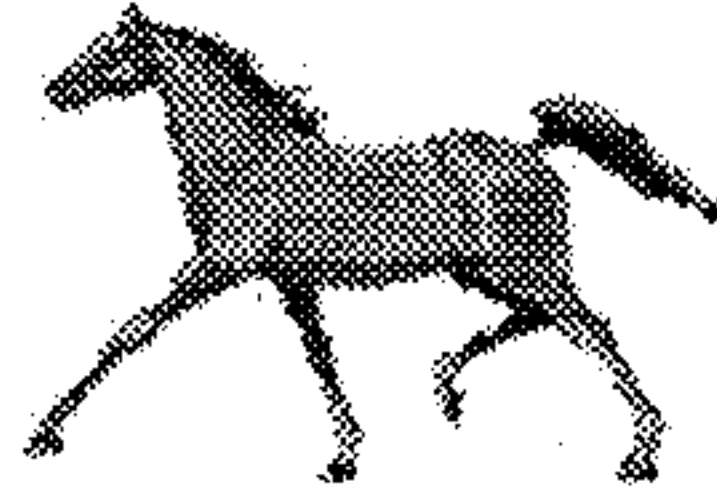
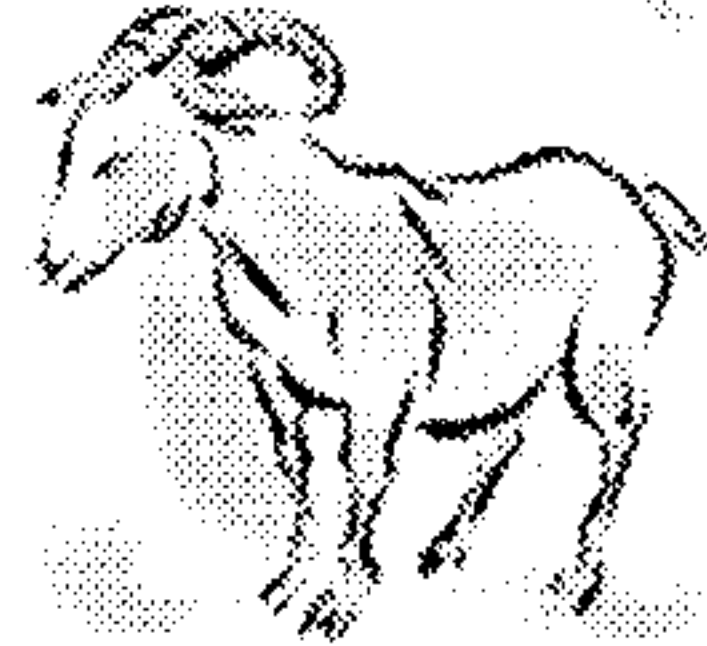
- Distribute the worksheet and explain the task.

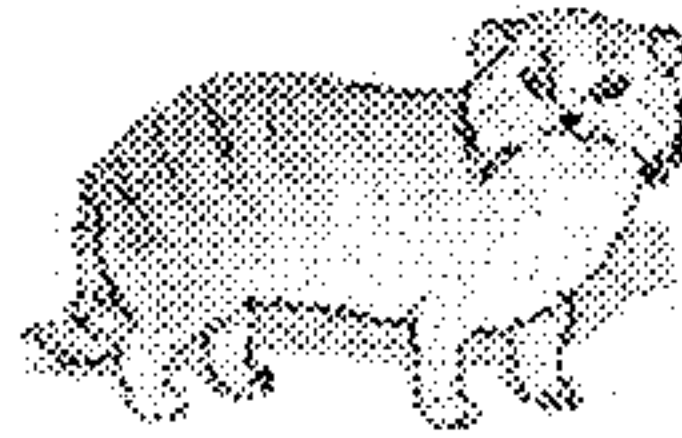
Wrap-up Q/A
Why do animals move?
How do animals move?

Level: 2 Term: 1
Week: 6 Day: 3

Animal Movement
Worksheet

Q 1) How do these animals move? Use words from list to describe.

Bird

Horse

Goat

Tiger

Cat

Snake

Insect

Fish

Frog

List: Swim, slither, run, walks, hop, crawl, jump, and fly.

Q 2) Why do animals move?

Level 2		Life Systems
Term 1	Lesson Plan	Animals
Week 6		
Day 4		

Topic: Growth and changes in animals

Objectives: To understand why do birds make nests.

Activity: Discussion, written work (making a booklet)

Materials: white paper sheets, color pencils or crayons, pencils and stapler.

Procedures:

- **Warm-up Q/A**
  Ask students,
- Have you seen bird nests?
- Where have you seen bird nests?
- Do you think some birds live in places other than nests?
  Ask, Where Do Birds Live?
- Brainstorm the students and make a list on black board of places where birds live

Where do birds live and make nests?
Nests Bird houses Trees Sides of buildings Rocks Holes in ground Holes in trees Bushes

- Ask, why do birds make nests?

Explanation

- Then explain,
- Birds make nests to lay eggs.
- Different birds make nests in different ways.
- Some make nests on high treetops, some in holes, some in bushes, some on rocks, some in tree trunks, and some in buildings.
- Have you seen a birds nest in school building or in your home?

Activity: written work

- Each child receives four pieces of white paper to be stapled together as a book.

On every page, students write a sentence about one place where a bird might live (example: "Some birds build their nests on our school building!" or "Birds moved into the

birdhouse in our backyard.")
Students draw pictures on the opposite pages to illustrate their sentences.
On the front of the book, students write the title of the book and their name and draw a picture.

Follow-up discussion

Students can volunteer to read their books to the class, or books can be shared with other classes or teachers in the school.

Wrap-up

Display the books in class in a corner.

Level 2		Life Systems
Term 1	Lesson Plan	Animals
Week 6		
Day 5		

Topic: Growth and changes in animals
Objectives: To understand how do birds make nests.
Activity: To create an art project of a bird's nest
Materials:
Brown paper bags (medium size)
Glue
Nesting Materials - sticks, grass, paper, leaves, etc. (these can be gathered ahead of time, or the students could take a short trip outside to gather some of the materials)
Procedure
Warm-up Q/A

- Ask, Do you know how a bird makes nest?
- What material do birds use?
- What are the shapes of their nests?
- Explain birds make nests by using different materials such as grass, leaves, feathers, mud etc
- They make nests in various shapes such as long, round, flat.
- Tell them now we will do an activity of making a bird's nest(sparrows nest which is round in shape).
-

Activity: 2

- Have students take their seats and cover work areas with newspaper.
- Give each student a paper bag and instruct them to fold the top edges all the way around, and roll them inward until they reach the bottom.
- This is the base for the nest.
  Distribute nesting materials (or have students gather them).
- Students should glue their materials on to make a nest.

Follow –up discussion

- Invite the students to share their work.
- Ask, what did you learn from this activity?

Wrap-up

- Ask, How do birds make their nests?
- Tell the students to label their nests with their names.
- Display the nests in a corner in the class.

Level 2		**Life Systems**
Term 1	**Assessment**	**Animals**
Week 6		
Day 6		

Note: use worksheets given with the lessons for assessment.

Science Revision Plan

Level 2
Term 1
Week 7

Week	Curriculum Strand	Topic	Day	Specific Objectives
7	Life Systems	Growth and Changes in Animals	1	Revision
7		do	2	
7		do	3	
7			4	
7		do	5	

Science Revision Plan

Level 2
Term 1
Week 8

Week	Curriculum Strand	Topic	Day	Specific Objectives
8	Life Systems	Growth and Changes in Animals	1	Revision
		do	2	
8		do	3	
8			4	
8		do	5	